LAMAR UNIVERSITY

Graduate Catalog 2006 - 2008

LAMAR UNIVERSITY Cardinals

Member of The Texas State University System

LAMAR UNIVERSITY

A Member of The Texas State University System

COLLEGE OF GRADUATE STUDIES

2006-2008 • Catalog • Volume 49 Number 2

Twenty-ninth catalog issued with announcements for 2006-2008.

Founded in 1923, and established as a four-year coeducational, state-supported college on September 1, 1951.

The provisions of this bulletin do not constitute a contract, expressed or implied, between any applicant, student and faculty member in Lamar University. Lamar University reserves the right to withdraw courses at any time, change fees, calendars, curricula, graduation procedures and any other requirement affecting students. Changes become effective when the proper authorities so determine the application to both prospective students and to the students already enrolled.

Lamar University is an equal opportunity/affirmative action educational institution and employer. Students faculty and staff members are selected without regard to their race, color, creed, sex, age, handicap or national origin, consistent with the Assurance of Compliance with Title VI of the Civil Rights Act of 1964; Executive Order 11246 as issued and amended; Title IX of the Education Amendments of 1972, as amended; Section 504 of the Rehabilitation Act of 1973. Inquiries concerning application of these regulations may be referred to the Vice President for Administration and Counsel.

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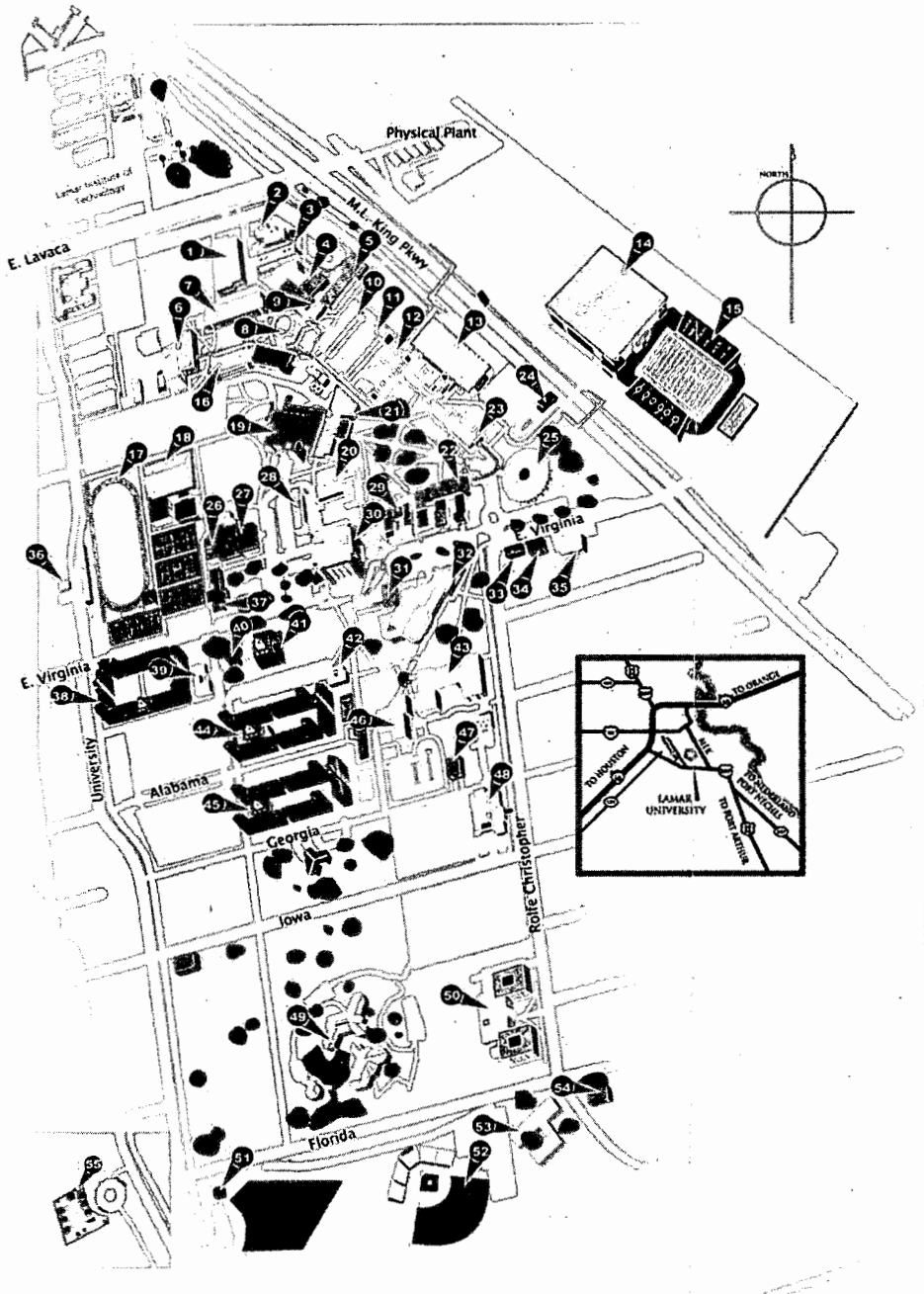
LAMAR UNIVERSITY



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2006-2007 CALENDAR

Fall Semester - 2006

August 2006

11 Summer Mini-Session begins (9 class days)
22 Fall non-payment purge after 5 p.m.
23 Summer Mini-Session ends
Fall registration (last day without late fee)
24 First class day (42 MWF, 28TTh)
Late registration/schedule revisions (with late fee)
25 Late registration/schedule revisions (with late fee)
28 Last day for registration/schedule revisions (with late fees)
29 Application for December 2006 graduation begins

AUGUST

S	M	T	W	T	F	S
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20	21	22	23	24	25	26
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September 2006

4 Labor Day holiday
11 12th class day
Non-payment registration purge after 5 p.m.
21 20th class day
Final non-payment registration purge after 5 p.m.

SEPTEMBER

S	M	T	W	T	F	S
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October 2006

2 Last day for graduate students to apply and pay for December graduation
4 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
27 Distribution of Spring 2007 Class Schedule
30 Advisement for Spring 2007 begins

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November 2006

3 Last day for undergraduates to apply and pay for December graduation
6 Registration for special populations begins
10 Last day to drop or withdraw with academic penalty
13 Open Registration for Spring 2007 begins
22 Thanksgiving recess begins after evening classes
23-24 Thanksgiving holidays

NOVEMBER

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December 2006

4 Last class day
5 Finals preparation day – no classes
Finals begin at 5 p.m.
6-12 Final examinations
13 Winter Mini-Session begins (15 Class Days)
14 Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by 4 p.m.
16 Commencement. 9:30 a.m.
25-29 Christmas holidays

DECEMBER

S	M	T	W	T	F	S
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31						

Spring Semester—2007

January 2007

1 New Year's Day
10 Winter Mini-Session ends
Spring non-payment purge after 5 p.m.
11 Spring registration (last day without late fee)
12 First class day (42 MWF, 28 TTH)
Late registration/schedule revisions (with late fee)
15 Martin Luther King Jr. holiday
16 Late registration/schedule revisions (with late fee)
17 Last day for late registration/schedule revisions (with late fee)
18 Application for May 2007 graduation begins
30 12th class day
Non-payment registration purge after 5 p.m.

JANUARY

S	M	T	W	T	F	S
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21	22	23	24	25	26	27
28	29	30	31			

February 2007

9 20th class day
Final non-payment registration purge after 5 p.m.
23 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"

FEBRUARY

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March 2007

5 Last day for graduate students to apply and pay for May graduation
12-16 Spring Break
19 Classes resume
30 Distribution of Summer/Fall 2007 Class Schedule

MARCH

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April 2007

2 Advisement for Summer/Fall 2007 begins
3 Last day for undergraduates to apply and pay for May graduation
Last day to drop or withdraw with academic penalty
6 Good Friday – no classes
9 Registration for Summer/Fall 2007 begins for special populations
16 Open registration for Summer/Fall 2007 begins
30 Last class day

APRIL

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29	30					

May 2007

1 Finals preparation day – no classes
Finals begin at 5 p.m.
2-8 Final examinations
9 Summer Mini-Session begins (15 class days)
10 Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by 4 p.m.
12 Commencement. 9:30 a.m.
28 Memorial Day holiday
30 Summer Mini-Session ends

MAY

S	M	T	W	T	F	S
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Summer Session—2007
First Term

May 2007

28 Memorial Day holiday
30 Summer Mini-Session ends
31 Summer Session I non-payment purge after 5 p.m.

June 2007

1 Summer Session I registration (last day without late fee)
4 First class day (25 class days)
Late registration/schedule revisions (with late fee)
6 Last day for late registration/schedule revisions (with late fee)
7 4th class day
Non-payment purge after 5 p.m.
Application for August 2007 graduation begins
8 Last day for graduate students to apply for August graduation
11 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
22 15th class day
Final non-payment purge after 5 p.m.
Last day to drop or withdraw with academic penalty
29 Last day for undergraduates to apply and pay for August graduation

July 2007

4 Independence Day holiday
9 Summer Session I ends

MAY

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JUNE

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JULY

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Summer Session—2007
Second Term

July 2007

4 Independence Day holiday
11 Summer Session II non-payment purge after 5 p.m.
12 Summer Session II registration (last day without late fee)
13 Summer Session II begins (25 class days)
Registration (with late fee)
17 Last day for late registration/schedule revisions (with late fee)
18 4th class day
Non-payment purge after 5 p.m.
20 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
30 Last day to drop or withdraw with academic penalty

August 2007

2 15th class day
Final non-payment purge after 5 p.m.
16 Summer Session II ends
17 Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by noon
18 Commencement. 9:30 a.m.

AUGUST

S	M	T	W	T	F	S
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2007-2008 Calendar

Fall Semester—2007

August 2007

21 Fall non-payment purge after 5 p.m.
22 Fall registration (last day without late fee)
23 First class day (42 MWF, 28TTH)
Late registration/schedule revisions (with late fee)
27 Last day for late registration/schedule revisions (with late fee)
28 Application for December 2007 graduation begins

AUGUST

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September 2007

3 Labor Day holiday
10 12th class day
Non-payment registration purge after 5 p.m.
20 20th class day
Final non-payment registration purge after 5 p.m.

SEPTEMBER

S	M	T	W	T	F	S
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
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October 2007

1 Last day for graduate students to apply for December graduation
3 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
31 Distribution of Spring 2008 Class Schedule

OCTOBER

S	M	T	W	T	F	S
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21	22	23	24	25	26	27
28	29	30	31			

November 2007

2 Last day for undergraduates to apply and pay for December graduation
5 Advisement for Spring 2008 begins
9 Last day to drop or withdraw with academic penalty
12 Registration for special populations begin
19 Open registration begins
21 Thanksgiving recess begins after evening classes
22-23 Thanksgiving holidays

NOVEMBER

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December 2007

3 Last class day
4 Finals preparation day – no classes
Finals begin at 5 p.m.
5–11 Final examinations
12 Winter Mini-Session begins (15 class days)
13 Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by 4 p.m.
15 Commencement. 9:30 a.m.
24-31 Christmas holidays

DECEMBER

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16	17	18	19	20	21	22
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30	31					

Spring Semester—2008

January 2008

1 New Year's Day
9 Spring 2008 non-payment purge after 5 p.m.
10 Winter Mini-Session ends
Spring registration (last day without late fee)
11 First class day (42 MWF, 28TTH)
Late registration/schedule revisions (with late fee)
15 Last day for late registration/schedule revisions (with late fee)
16 Application for May 2008 graduation begins
21 Martin Luther King Jr. holiday
29 12th class day
Non-payment registration purge after 5 p.m.

JANUARY

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
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20	21	22	23	24	25	26
27	28	29	30	31		

February 2008

8 20th class day
Final non-payment registration purge after 5 p.m.
22 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"

FEBRUARY

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10	11	12	13	14	15	16
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March 2008

3 Last day for graduate students to apply for May graduation
10-14 Spring Break
17 Classes resume
21 Good Friday - no classes
28 Distribution of Summer/Fall 2008 Class Schedule
31 Advisement for Summer/Fall 2008 begins

MARCH

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30	31					

April 2008

1 Last day for undergraduates to apply and pay for May graduation
7 Registration for Summer/Fall 2008 begins for special populations
11 Last day to drop or withdraw with academic penalty
14 Open registration for Summer/Fall 2008 begins
28 Spring Semester last class day
29 Finals preparation day – no classes
Finals begin at 5 p.m.
30 Final examinations

APRIL

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May 2008

1-7 Final examinations
8 Summer Mini-Session begins (15 class days)
Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by 4 p.m.
10 Commencement. 9:30 a.m.
26 Memorial Day holiday

MAY

S	M	T	W	T	F	S
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11	12	13	14	15	16	17
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Summer Session—2008
First Term

May 2008

26 Memorial Day holiday
28 Summer Session I non-payment purge after 5 p.m.
29 Summer Mini-Session ends
Summer Session I registration (last day without late fee)
30 Summer Session I begins (25 class days)
Late registration/schedule revisions (with late fee)

MAY

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June 2008

3 Last day for late registration/schedule revisions (with late fee)
4 4th class day
Non-payment purge after 5 p.m.
6 Application for August 2008 graduation begins
13 Last day for graduate students to apply for August graduation
16 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
19 15TH class day
Final non-payment purge after 5 p.m.
27 Last day to drop or withdraw with academic penalty
30 Last day for undergraduates to apply and pay for August graduation

JUNE

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July 2008

3 Summer Session I ends
4 Independence Day holiday

JULY

S	M	T	W	T	F	S
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20	21	22	23	24	25	26
27	28	29	30	31		

Summer Session—2008
Second Term

July 2008

9 Summer Session II non-payment purge after 5 p.m.
10 Summer Session II registration (last day without late fee)
11 Summer Session II begins (25 class days)
Late registration/schedule revisions (with late fee)
15 Last day for late registration/schedule revisions (with late fee)
16 4th class day
Non-payment purge after 5 p.m.
23 Last day to drop or withdraw without academic penalty
Last day to petition for "No Grade"
31 15th class day
Final non-payment purge after 5 p.m.

AUGUST

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31						

August 2008

4 Last day to drop or withdraw with academic penalty
14 Summer Session II ends
15 Grades for graduating seniors due by 8:30 a.m.
Grades for all other students due by noon
16 Commencement. 9:30 a.m.

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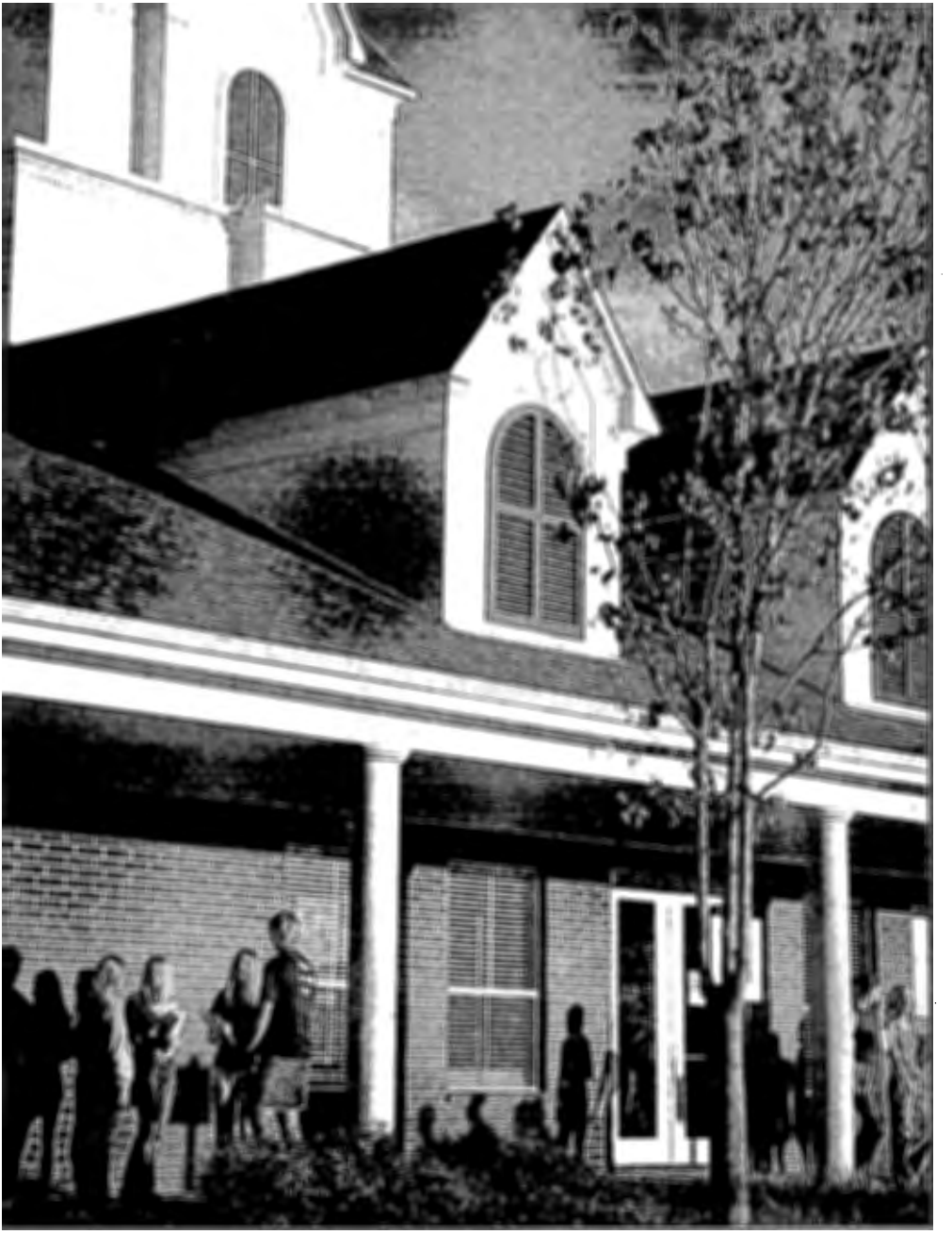
Dean of Graduate Studies: Jerry W. Bradley, Ph.D.
Editor: Cynthia L. Hicks



Students from 25 nations study in more than 35 master's-level subject areas at Lamar University.

General Information

Location

The Lamar University campus is located in Beaumont, Texas. With a population of more than 115,000, Beaumont is a diversified city, home not only to the University but also to businesses and industry stemming from a strong petrochemical and agricultural base. World-renowned companies are located in Beaumont to take advantage of the area's resources and its educated workforce.

A host of cultural attractions offer a variety of leisure options from world-class museums and symphony presentations to shopping districts and many spring and fall festivals. A civic center, convention center, entertainment complex and coliseum draw professional entertainers and a wide variety of business, social and professional groups to the city. Beaumont is convenient to lake, river and ocean recreation, located only a few miles from the balmy Gulf Coast and little more than an hour from the Big Thicket National Preserve, large lakes and piney woods.

The campus is home to the stately Mary and John Gray Library, Montagne Center coliseum, the Sheila Umphrey Recreation Sports Center, Gladys City Boomtown, several residence halls and state-of-the-art computing and engineering facilities, including a leading-edge interactive video laboratory. Lamar University welcomes visitors. Information regarding tours may be obtained from the Office of Admission Services, P.O. Box 10009, Beaumont, Texas 77710, phone (409) 880-8316.

History

Lamar University originated on March 8, 1923, when the South Park School District in Beaumont authorized its superintendent to proceed with plans to open "a Junior College of the first class." On Sept. 17, 1923, South Park Junior College opened with 125 students and a faculty of fourteen. Located on the third floor of the South Park High School building, the College shared the library and athletic facilities with the high school. In 1932, separate facilities were provided and the name of the institution was changed to Lamar College, to honor Mirabeau B. Lamar, second president of the Republic of Texas and the "Father of Education" in Texas.

On June 8, 1942, as a result of a public campaign, a new campus was purchased and classes were held for the first time on the present-day campus in Beaumont. After World War II, the College grew to 1,079, and the Honorable Jack Brooks introduced a bill in the House of Representatives to make Lamar University a state-supported senior college. The Legislature approved House Bill-52 June 4, 1949, creating Lamar State College of Technology effective September 1, 1951. Lamar was the first junior college in Texas to become a four-year, state-supported college. Lamar continued to grow, building strong programs in engineering, sciences, business, education and the arts.

In 1962, a graduate school was established offering master's degrees in several fields. In 1969, an extension center was opened in Orange. The Doctor of Engineering degree was established in 1971. In the same year, House Bill-590 became law, changing the institution's status from college to university. Lamar State College of Technology, with an enrollment of 10,874, officially became Lamar University on August 23, 1971.

In 1975, the long-standing, private two-year Port Arthur College became Lamar University at Port Arthur. The Lamar University System, of which Lamar University-Beaumont was the primary component, was established in the 68th Session of the Texas Legislature with the passage of SB-620, which took effect in August 1983.

In 1990, the Texas Higher Education Coordinating Board recommended that all two-year programs at Lamar University be combined into the Lamar University Institute of Technology. The programs in the former College of Technical Arts, along with Allied Health, Office Technology and Restaurant/Institutional Food Management were placed in the new Institute. The Doctor of Education in Deaf Studies/Deaf Education was established in 1993, the Doctor of Audiology in 2003, the Doctor of Education in Educational Leadership in 2004, and the Doctor of Philosophy in Chemical Engineering in 2005.

Lamar's commitment to quality higher education has been steady and progressive, anticipating the evolving needs of its students. To facilitate this commitment, the Texas Legislature approved House Bill-2313 to merge the Lamar University System with The Texas State University System (TSUS). Effective September 1, 1995, Lamar University joined sister institutions Angelo State University, Sam Houston State University, Southwest Texas State University (now Texas State University-San Marcos) and Sul Ross State University. On June 19, 1999, the Texas Legislature approved House Bill- 1297 to rename Lamar University at Port Arthur, Lamar University at Orange and the Lamar University Institute of Technology. Today, these TSUS institutions are known as Lamar State College at Port Arthur, Lamar State College at Orange and the Lamar Institute of Technology.

As a comprehensive university granting bachelor's, master's and doctoral degrees, Lamar University continues to enhance its instructional, service and research missions. Lamar's growth has produced an economic impact that exceeds $200 million annually, but even more influential is the impact realized by Lamar graduates, who are more than 67,000 strong.

Government

A board of nine regents, appointed by the Governor and approved by the State Senate for terms of six years, governs The Texas State University System. The Board of Regents delegates the direction of university affairs to the presidents, campus administrative officers and faculty.

Mission Statement

Lamar University is a comprehensive senior public university dedicated to providing a learning environment of the highest quality. The University is an educational, scientific, engineering, business, and cultural resource center committed to the three-fold mission of teaching, research and service. The University is committed to providing students with a liberal education in the context of a global and multicultural environment, and seeks partnerships with business, governmental, industrial and other educational organizations to more efficiently accomplish its goals.

Instructional Mission

Lamar University emphasizes quality teaching, student access to faculty, and careful student counseling. The University creates a liberating educational experience for each student which expands knowledge, awakens new intellectual interests, examines values, develops talents, provides new skills, and prepares each student to assume an effective role as a citizen in a democracy.

With historical commitments to quality educational programs in engineering, business, the arts and sciences, health sciences, education, and the visual and performing arts, the University focuses its unique strengths on significant problems of contemporary interest as evidenced by its recent initiatives in environmental science and engineering, gifted education, and deaf education.

Lamar University is strongly committed to the continual enhancement of teaching/learning methodologies and their systematic assessment.

The University's mission in graduate education is broad-based at the master's level and includes the doctorate in audiology, chemical engineering, educational leadership, engineering, and in deaf education. The University's mission in graduate education is characterized by an emphasis on professional fields of study.

Research Mission

As a comprehensive, regional university with extensive educational programs, Lamar University's academic efforts are directed to both applied and basic research, scholarship, and creative activities. Through its emphasis on the teacher-scholar model, the University encourages faculty members to be active in their respective disciplines, to involve both undergraduate and graduate students in research and creative pursuits, and to support the principle that research is inseparable from teaching.

Service Mission

The University's educational mission extends to all residents of the Southeast Texas area and, in special cases, beyond the region. In recognition of that mission, Lamar University provides a diverse outreach program including: credit and non-credit continuing education offerings responsive to the personal, career, and professional development needs of individuals in our region; specialized skills training and human resource development for business and industry on the Gulf Coast; and public service activities that respond to unique regional educational needs and cultural interests.

The University contributes to the cultural life of the region through artistic presentations and events utilizing the talents of faculty, students, and visiting lecturers, artists, and performers.

Students, faculty, and staff are encouraged to be involved in civic, cultural, service, and professional activities. By such voluntary and consultative activities, members of University demonstrate their citizenship within the larger community.

Accreditation and Approval

Lamar University 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; web site www.sacscoc.org) to award degrees at the Associate, Baccalaureate and Doctoral levels. In addition, Lamar is approved by the Texas Education Agency. The College of Graduate Studies is a member of the Council of Graduate Schools in the United States, the Conference of Southern Graduate Schools and the Texas Association of Graduate Schools.

Programs in the College of Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. In the College of Business, graduate programs are accredited by the International Association for Management Education.

Other accreditations include Nursing by the National League for Nursing Accrediting Commission; Chemistry by the American Chemical Society; Geology by the American Institute of Professional Geologists; Music by the National Association of Schools of Music; the College of Education and Human Development by the Texas Education Agency; programs in Family and Consumer Sciences by the American Dietetic Association; Social Work by the Council on Social Work Education; programs in Speech-Language Pathology and in Audiology by the American Speech-Language-Hearing Association and in Deaf

Education by the National Council for Education of the Deaf and the Texas Education Agency. The University is also a member of a number of academic councils, societies and associations.

The Library

The Mary and John Gray Library is centrally located on campus. Its collection exceeds 1 million volume equivalents, including microforms and state and federal documents. The library subscribes to almost 2,000 current periodicals and provides access to many full-text databases covering more than 3,000 periodicals.

Students, faculty and staff of Lamar University can use PCs to locate electronic books in the online catalog, access indexes and journals electronically, and locate selected information through the Internet. A service-oriented library staff provides assistance in the use of reference materials, documents, special collections, reserve materials and instructional media. The ID card serves as an individual's library card.

The library provides rooms for group study, and the fifth floor is a designated quiet study floor. Coin-operated copy machines for both print and microforms are available. An open-access PC lab is located on the library's seventh floor in the Media Services department. Assistance in using the PCs, software and the Internet is available from trained staff.

Additionally, students have access to the collections of 51 other publicly funded colleges and universities through the TexShare program. Library hours are posted on the library's web site at http://library.lamar.edu and are available in a recorded message at (409) 880-8117.

Research Office

The Research Office is administered by the Associate Vice President for Research, who chairs the Research Council. This office promotes and funds internal research; oversees sponsored programs and technology transfer as well as patent, copyright and intellectual property policies; establishes liaison between the university and state and national funding sources; and assures that proposed projects comply with institutional and governmental regulations. This office also provides assistance to faculty in the development and submission of grant/project proposals by locating funding sources and providing editorial assistance in proposal preparation.

Information Technologies (Central Computing)

The Information Technologies Division is responsible for providing the computing services required by the academic, administrative and research communities of Lamar University.

Central Computing, a department of the Division, is located in the Cherry Engineering Building. The Facility consists of an ES40 Alpha processor running the Administrative software systems for Lamar University with 2 gigabytes of RAM and 702 gigabytes of storage, a DS20 Alpha Server with 512 megabytes of RAM and 54 gigabytes of disk storage running OpenVMS, a DEC 2100 Alpha Server with 256 megabytes of RAM and 18 gigabytes of disk storage running True64UNIX, the Lamar Web Server running Windows NT 4.0 and two Lamar Departmental Web Servers running Windows NT 4.0 and Windows 2000. Central Computing established and maintains onsite and offsite disaster recovery contingency facilities in the event of a disaster. The facilities house the equipment for the Administrative systems. Languages supported by Central Computing department are ADA,

Basic, C, C++, FORTRAN, LISP, PASCAL and JAVA. Software packages include MATLAB, SPSS, SAS, and IMSL. Also maintained are a DEC 2100 Server for the Library running OpenVMS and phone/web registration machines. All computer systems are connected to the University's fiber optic backbone using gigabit Ethernet. There are three 1200 lpm printers and three 50 ppm laser printers for student and faculty use.

Central Computing is open 24 hours a day from 7 a.m. on Monday to 7 a.m. on Saturday. Reports and accounts may be picked up from 7:30 a.m. to 7 p.m. Monday through Friday. The machines are available 24 hours a day, except once a week when full backups are performed on all servers.

A student entering Lamar University is given a computer account by Central Computing. New student and new faculty accounts are generated by the fourth class day of each semester. In order to activate an account, a student or faculty member must come to the Central Computing window in the Cherry Building and present his/her Lamar ID. Accounts remain active as long as a student is enrolled or a faculty member is employed, unless the Computer Use Policy is violated. Central Computing's web site is http://hal.lamar.edu/%7Eluis/Cc/CC_Main.htm.

Early Childhood Development Center

The Lamar University Early Childhood Development Center is located at 950 East Florida. The Center is accredited by the National Association for the Education of Young Children and provides high-quality extended child care services and preschool/pre-kindergarten programs designed for children between the ages of 18 months and 5 years. The Center is home to a special program called "Super Kids." The science-based, interactive program for first- through third-graders is taught in one-week sessions during the summer months.

The Center is staffed with degreed teachers who create a stimulating environment and provide unlimited opportunities for learning. In addition to providing care for young children, the Center, under the direction of the College of Education and Human Development, provides a site for college students from a number of different disciplines to work with children as part of their course work and training. To learn more about these programs, call (409) 880-8212.

Career Center

Located in 102 Galloway Business Building the Career Center's professional staff assist students with all facets of career preparation, beginning with university entrance and special placement exams, major course of study selection, career choice and planning, part-time employment, resume preparation, interviewing preparation, goal planning and full-time employment after graduation. Students have access to on-line Internet job search and computerized guidance assessment programs.

LamarWork$, the student employment service located in the Career Center, assists students in locating part-time jobs, internships, and on-campus work-study and student assistant opportunities. All services are free to the student. Additional information is available from the LamarWork$ desk by calling (409) 880-1853.

The center has a full-time career counselor on staff to provide personalized assistance. In order to best serve as many students as possible, problems of a long-term, therapeutic nature cannot be addressed; however, initial consultation is available and, when feasible, referral to campus and community resources.

Job fairs are organized annually for the benefit of Lamar University students. The Career Expos and Education Fairs are held each semester. These opportunities allow

students to make initial contact with recruiting firms and school districts that may result in interviews on the Lamar campus or at the recruiter's headquarters during the spring and fall. Each spring, Lamar University also participates in the Texas Job Fair. Employers recruiting with the Career Center generally plan to fill permanent entry-level jobs, summer jobs, co-ops and internships.

The Career Center's Testing Office offers a full range of testing services for aptitude, achievement and career interest. The center also coordinates testing required by the University; provides individual interest, aptitude and personality assessment; and as a national and state test center administers the following:

- SAT (Scholastic Aptitude Test) for undergraduate admission. The SAT II Subject Area Tests are also given for students who wish to receive college credit.
- ACT (American College Testing Program) may be used instead of the SAT for undergraduate admission.
- THEA (Texas Higher Education Assessment) is required of all students for advisement and registration (unless exempted)
- CLEP (College Level Examination Program) may be used to get credit by examination. See detailed description of CLEP elsewhere in this catalog.
- GRE (Graduate Record Exam) subject tests are administered.
- LSAT (Law School Admission Test)
- MCAT (Medical College Admission Test)
- MAT (Miller Analogies Test) required for admission to some graduate programs
- Correspondence Exams

Information and registration forms are available in 102 Galloway Building, (409) 880-8444. Although the GRE general test and GMAT (Graduate Management Admission Test) are administered elsewhere, registration information is available in 102 Galloway. Additional information regarding career and testing services is available at www.lamar.edu/career.

Health Center

The Student Health Center offers various medical services to currently enrolled students. A physician and/or nurse practitioner is available to treat students for minor illnesses or injuries not requiring constant supervision. Students with chronic and/or serious conditions will require treatment off campus by their own family pysician. Most health center services are available on a *walk-in* basis, and most of the medications prescibed are available in the health center pharmacy at a reduced cost. Students are charged only for medications, lab tests or supplies, not for the office visit. All charges incurred are entered on the student account, thus no payment is required at the time of service.

Gynecological services and family planning are provided by female nurse practitioners at a reduced charge. There is a lab charge for most gynecological services. A full-time health educator, in collaboration with student peer educators, offers health education to organizations, residence halls, classes, or individuals on a variety of health-related issues pertinent to the university population. The health center is also staffed with licensed counselors offering short-term psychological counseling, individual and group therapy, and mental health workshops at no charge.

After hours, on weekends and when the university is not in session, healthcare becomes the individual student's responsibility. Any expenses incurred for ambulance service or off-campus medical needs are also the responsibility of the student. Students are encouraged to maintain some form of health insurance to cover these expenses, as they can be quite costly. Detailed information regarding health center services is available at dept .lamar .edu / healthcenter/.

Health Insurance

Health and accident insurance is required of all international students, residence hall occupants, and participants in intramural sports. Any registered student taking six or more credit hours (three hours during the summer sessions) is eligible for enrollment in an affordable insurance plan offered by an independent insurance company. This supplemental policy covers a portion of the costs for inpatient and outpatient medical services not available at the health center. Except in emergency situations, students are required to seek treatment at the health center first, where off-campus referrals will be issued if deemed necessary. Students enrolled in the plan may also insure their dependent; however, non-student dependents are not eligible to use the health center.

Premiums are due at the time of enrollment and are available per semester or on an annual basis. Detailed information and enrollment forms are available through the Student Health Center, the offices of Student Affairs or Residence Life, L. I. T. Student Services, or through the health center web site at http://dept.lamar.edu/healthcenter/.

Veterans Education

A Veterans Affairs Office is maintained in the Winberly Students Services Building to aid veterans in obtaining their educational benefits. It also provides academic assistance and counseling. Veterans are encouraged to complete admissions and testing requirements 90 to 120 days prior to the period for wish they wish to enroll.

Loan Funds and Scholarships

Financial assistance in the form of loans, grants and scholarships is available for qualified students. Details may be obtained on request from the Director of Financial Aid, P.O. Box 10042, Beaumont, TX 77710.

Graduate Assistantships

Teaching and research assistantships are available in the various graduate departments. Additional information may be obtained either from the department chair or from the Dean of the College of Graduate Studies. Assistantships are awarded *only* to those individuals who meet all requirements for admission to a graduate degree program.

Graduate assistantships at the master's and doctoral levels are available in a number of academic departments. All assistantships are intended to be of direct educational benefit to appointees. In order to be approved by the Graduate Dean, an assistantship appointment must relate to the student's academic objective and be supervised by Lamar University faculty.

Graduate assistants are Lamar University employees who are also graduate students. They are employed by a department or college to instruct in classrooms and labs, advise undergraduate students, proctor exams, supervise practica, assist in research and creative activity, or perform other teaching research and creative duties.

Under specified conditions Texas law permits the waiver of out-of-state tuition status for some classifications of graduate assistants. When these conditions are met, graduate assistants may be allowed to pay tuition at the less expensive in-state or Texas resident rate. Contact the Graduate Office for a copy of applicable regulations.

Teacher Certification

All teacher education programs of the University are approved by the Texas Education Agency and the State Board of Educator Certification. Specific information concerning certification may be found in the College of Education and Human Development section of this catalog or may be obtained from the Director of the Division of Professional Services in the College of Education and Human Development, (409) 880-8902.

Certification in Special Education and in Composite Science

The College of Education and Human Development has been approved by the State Board for Education Certification to offer an alternative certification program in the areas of Generic Special Education K-12 and Composite Science (Secondary, 6-12) and Elementary Bilingual Education (Grades 1-6). Information concerning either of these programs may be obtained from the Division of Professional Services.

Fees and Expenses

Lamar University reserves the right to change fees in keeping with acts of the Texas Legislature and the University's Board of Regents. By registering for classes at the University, the student agrees to abide by all the policies of the University.

Payment of Fees

A student is not registered until all fees have been paid in full or the student has paid the equivalent of a down payment on the installment plan (if available). Payment may be made by check, MasterCard/Visa/Discover/AMEX, money order, currency or any kind of financial aid (exemptions, loans, grants and scholarships). Checks and money orders should be made payable to Lamar University and will be accepted subject to final payment. The University will not accept counter checks, postdated checks, credit card checks or altered checks. Excess payments will be refunded either in cash or check at the discretion of the University. Students on a "cash only" basis will be restricted to paying by MasterCard/Visa/Discover/AMEX, money orders, currency or financial aid. Payments can be made:

(1) All forms of payment at the Cashier's office during working hours.

(2) Payments may be made on the Internet at WWW.LAMAR.EDU.

(3) Drop box at Wimberly 114 for check (with student I.D. number and campus) in a sealed envelope. These payments will be considered part of the next business day's activity if paid after 5:00 p.m. No cash will be accepted.

(4) Mailed to the Payment Center at P.O. Box 54441, New Orleans, LA 70154-4441.

Students who are delinquent on obligations will be prohibited from registering for class until all obligations are paid in full. Also, holds are placed on academic records so that students cannot obtain transcripts until all obligations are paid in full.

Delinquent obligations to the University will be sent to a collection agency and reported to credit bureaus. All costs of collections are paid by the student which is generally an additional 33.333% of the student's obligations to the University. Delinquent accounts must be paid at the collection agency. Payment cannot be accepted by Lamar if the account has been forwarded to a collection agency.

Installment Payment Program

Students may enter into the installment program of the University upon verbal or written request in a Fall or Spring semester. Students who do not pay in full the tuition and fees will be placed in the installment program if the student has paid at least the amount for the down payment (otherwise classes will be dropped). The installment program generally requires a 50% downpayment with the next 25% due about a month after the semester starts and the final 25% due about two months after the semester starts. A nonrefundable service charge of $20 is assessed for the installment program. A late fee of $15 will be assessed beginning the first day after an installment due date for each delinquent installment payment. Reductions of fees for students in the installment program from drops or withdrawals are calculated as a percentage of the total fees assessed, not as a percentage of any partial payments.

Tuition

Tuition has two components to it: the portion set by the State (conventional tuition) and the portion set by the Board of Regents regulated by State statutes (local tuition). By State statute, both of these items must be billed together and called "tuition."

The State portion (conventional tuition) is based upon the number of hours for which the student registers and is determined by the student's classification as a Texas resident or a non-Texas resident. The Admissions Office determines legal residence for tuition purposes on the basis of statutes of the State of Texas. State tuition is remitted to the State by the University. The current state tuition rate is $50 per hour.

The local tuition portion is assessed to support University debt service and other University functions. The current rate is $70 per hour moving to $75 per hour in Fall 2007 and increasing by $5 per hour every Fall thereafter.

Combined, the current rate is $120 per hour moving to $125 per hour in Fall 2007 and increasing by $5 per hour every Fall thereafter.

Graduate Tuition

Graduate tuition is set by the Board of Regents and is assessed to support the Graduate Studies program. The current graduate tuition is $22 per hour, moving to $33 per hour in Fall 2006 and increasing by $11 per hour every Fall thereafter.

Student Responsibility for Residence Classification

The responsibility of registering under the proper residence classification is that of the student. If there is any possible question of the student's right to classification as a resident of Texas, it is his/her obligation, prior to or at the time of registration, to raise the question with the Director of Admissions and have his/her status officially determined.

Every student who is classified as a resident student but who becomes a nonresident at any time by virtue of a change of legal residence by his/her own action or by the person controlling the student's domicile, is required to notify the Registrar.

Publication of and Public Access to Thesis/Field Study/ Dissertation Abstracts

The Graduate Council requires that thesis, field study, and dissertation abstracts be published by University Microfilms. Fees for this service are included in the binding fees. If copyrighting is desired, the cost is $45. All theses, field studies, and dissertations will be placed in the library if permission to do so is granted by the student.

Refund of Tuition and/or Fees

Students requesting a refund of tuition and/or fees resulting from dropped courses or from withdrawing from the University should direct questions to the Cashiers' Office. Refunds are calculated as a percentage of *total* fees assessed, *not* as a percentage of partial payments on installments. Refunds for dropped classes are generally processed at the end of the second week past the 12th semester day of regular semesters and after the 4th semester day during summer sessions. Refunds for withdrawals are generally processed at the end of the second week following the 12th semester day for regular semesters and two weeks after the 6th semester day for summer sessions.

Dropped Courses

In order to receive a 100% reduction of tuition and fees for dropped courses, a student must drop according to the schedule below, and remain enrolled in some hours with the University. Questions should be directed to the Cashiers' Office.

Fall or Spring Semester

1. Through the twelfth semester day, 100 percent.
2. After the twelfth semester day, no refund.

Summer Session

1. Through the fourth semester day, 100 percent.
2. After the fourth semester day, no refund.

Withdrawal from the University

Tuition and fees may be reduced when a student withdraws. Depending on the amount of reduction and what the student has paid, the student may receive a refund or may still owe money to the University. Any student who officially withdraws from the University will receive a reduction on tuition and fees according to the following schedule.

Fall or Spring Semester

1. Prior to the first semester day, 100 percent, less a $15 matriculation fee.
2. During the first through fifth semester days, 80 percent.
3. During the sixth through tenth semester days, 70 percent.
4. During the eleventh through fifteenth semester days, 50 percent.

5. During the sixteenth through twentieth semester days, 25 percent.
6. After the twentieth semester day, none.

Summer Session

1. Prior to the first semester day, 100 percent, less a $15 matriculation fee.
2. During the first, second or third semester day, 80 percent.
3. During the fourth, fifth or sixth semester day, 50 percent.
4. Seventh semester day and after, none.

The $10 Property Deposit is refundable upon written request by the student to the Cashiers' Office.

Withdrawing from the University does not relieve the student of any financial obligations under the Installment Payment Program or for any student loans as these are the student's legal financial commitments.

Summaries of Fees

Following are "Summaries of Fees" in effect at press time which can be used in determining total tuition and fee charges. The total amount of these fees are typical of other state universities in Texas though specific fees will vary from university to university. Note that these do not include course fees and it is assumed the student is enrolled only at Lamar University.

Additional fees and charges which are applied on a selective basis are listed following the Summary of Fees.

Lamar University
Summer 2006

Semester Hours	Tuition Texas Resident	Tuition Non-Texas Resident	Tuition Graduate	Student Service Fee	Student Center Fee	Health Center Fee	Technology Service Charge	Library Use Fee	Study Abroad Fee	Property Deposit	Totals Texas Resident	Totals Non-Texas Resident	Totals Graduate Texas Resident	Totals Graduate Non-Texas Resident
1	120	366	22	16.50	15	15	15	10	1	10	202.50	448.50	224.50	470.50
2	240	732	44	33.00	15	15	30	20	1	10	364.00	856.00	408.00	900.00
3	360	1,098	66	49.50	15	15	45	30	1	10	525.50	1,263.50	591.50	1,329.50
4	480	1,464	88	66.00	15	15	60	40	1	10	687.00	1,671.00	775.00	1,759.00
5	600	1,830	110	82.50	15	15	75	50	1	10	848.50	2,078.50	958.50	2,188.50
6	720	2,196	132	87.50	15	15	90	60	1	10	998.50	2,474.50	1,130.50	2,606.50
7	840	2,562	154	87.50	15	15	105	70	1	10	1,143.50	2,865.50	1,297.50	3,019.50
8	960	2,928	176	87.50	15	15	120	80	1	10	1,288.50	3,256.50	1,464.50	3,432.50
9	1,080	3,294	198	87.50	15	15	135	90	1	10	1,433.50	3,647.50	1,631.50	3,845.50
10	1,200	3,660	220	87.50	15	15	150	100	1	10	1,578.50	4,038.50	1,798.50	4,258.50

Parking: $12; ID: $5; Property Deposit is a one-time fee; Courses may have additional fees.
Note: Fees subject to change without notice by action of the Board of Regents or the Texas State Legislature.

Lamar University
Fall 2006/Spring 2007

Semester Hours	Tuition Texas Resident	Tuition Non-Texas Resident	Graduate	Student Service Fee	Student Center Fee	Health Center Fee	Technology Service Charge	Library Use Fee	Study Abroad Fee	Property Deposit	Totals Texas Resident	Totals Non-Texas Resident	Totals Graduate Texas Resident	Totals Graduate Non-Texas Resident
1	120	396	33	18.00	30	30	17	12	2	10	239.00	515.00	272.00	548.00
2	240	792	66	36.00	30	30	34	24	2	10	406.00	958.00	472.00	1,024.00
3	360	1,188	99	54.00	30	30	51	36	2	10	573.00	1,401.00	672.00	1,500.00
4	480	1,584	132	72.00	30	30	68	48	2	10	740.00	1,844.00	872.00	1,976.00
5	600	1,980	165	90.00	30	30	85	60	2	10	907.00	2,287.00	1,072.00	2,452.00
6	720	2,376	198	108.00	30	30	102	72	2	10	1,074.00	2,730.00	1,272.00	2,928.00
7	840	2,772	231	126.00	30	30	119	84	2	10	1,241.00	3,173.00	1,472.00	3,404.00
8	960	3,168	264	144.00	30	30	136	96	2	10	1,408.00	3,616.00	1,672.00	3,880.00
9	1,080	3,564	297	162.00	30	30	153	108	2	10	1,575.00	4,059.00	1,872.00	4,356.00
10	1,200	3,960	330	180.00	30	30	170	120	2	10	1,742.00	4,502.00	2,072.00	4,832.00
11	1,320	4,356	363	180.00	30	30	187	132	2	10	1,891.00	4,927.00	2,254.00	5,290.00
12	1,440	4,752	396	180.00	30	30	204	144	2	10	2,040.00	5,352.00	2,436.00	5,748.00
13	1,560	5,148	429	180.00	30	30	221	156	2	10	2,189.00	5,777.00	2,618.00	6,206.00
14	1,680	5,544	462	180.00	30	30	238	168	2	10	2,338.00	6,202.00	2,800.00	6,664.00
15	1,800	5,940	495	180.00	30	30	255	180	2	10	2,487.00	6,627.00	2,982.00	7,122.00
16	1,920	6,336	528	180.00	30	30	272	192	2	10	2,636.00	7,052.00	3,164.00	7,580.00
17	2,040	6,732	561	180.00	30	30	289	204	2	10	2,785.00	7,477.00	3,346.00	8,038.00
18	2,160	7,128	594	180.00	30	30	306	216	2	10	2,934.00	7,902.00	3,528.00	8,496.00
19	2,280	7,524	627	180.00	30	30	323	228	2	10	3,083.00	8,327.00	3,710.00	8,954.00
20	2,400	7,920	660	180.00	30	30	340	240	2	10	3,232.00	8,752.00	3,892.00	9,412.00

Parking: $32; ID: $5; Property Deposit is a one-time fee; Courses may have additional fees.
Note: Fees subject to change without notice by action of the Board of Regents or the Texas State Legislature.

Lamar University
Summer 2007

Semester Hours	Tuition Texas Resident	Tuition Non-Texas Resident	Graduate	Student Service Fee	Student Center Fee	Health Center Fee	Technology Service Charge	Library Use Fee	Study Abroad Fee	Property Deposit	Totals Texas Resident	Totals Non-Texas Resident	Totals Graduate Texas Resident	Totals Graduate Non-Texas Resident
1	120	366	22	18.00	15	15	17	12	1	10	208.00	454.00	230.00	476.00
2	240	732	44	33.00	15	15	34	24	1	10	372.00	864.00	416.00	908.00
3	360	1,098	66	49.50	15	15	51	36	1	10	537.50	1,275.50	603.50	1,341.50
4	480	1,464	88	66.00	15	15	68	48	1	10	703.00	1,687.00	791.00	1,775.00
5	600	1,830	110	82.50	15	15	85	60	1	10	868.50	2,098.50	978.50	2,208.50
6	720	2,196	132	90.00	15	15	102	72	1	10	1,025.00	2,501.00	1,157.00	2,633.00
7	840	2,562	154	90.00	15	15	119	84	1	10	1,174.00	2,896.00	1,328.00	3,050.00
8	960	2,928	176	90.00	15	15	136	96	1	10	1,323.00	3,291.00	1,499.00	3,467.00
9	1,080	3,294	198	90.00	15	15	153	108	1	10	1,472.00	3,686.00	1,670.00	3,884.00
10	1,200	3,660	220	90.00	15	15	170	120	1	10	1,621.00	4,081.00	1,841.00	4,301.00

Parking: $12; ID: $5; Property Deposit is a one-time fee; Other course and material fees may apply.
Note: Fees are subject to change without notice by action of the Board of Regents or the Texas State Legislature.

Student Service Fee

The student service fee supports student activities such as athletics, recreational sports, the University Press and other student services. The current rate is $18.00 per hour with a maximum of $180.

Setzer Student Center Fee

This fee supports the Setzer Student Center and its programs. The current rate is $30 per long semester and $15 per summer session.

Course Fees

Most courses have additional fees associated with them. Students should always check with the departments offering the class to see what additional fees will be assessed. Most course fees are also listed in the class schedule.

Health Center Fee

The Health Center Fee supports the student Health Center and is $30 per long semester and $15 per summer session.

Technology Service Fee

This fee primarily supports both the administrative mainframe computer and the academic mainframe computer. The current rate is $15 per hour.

Library Use Fee

This fee is used to support the library. As every course (including field center courses) are given the mandate to use the library, all students are charged this fee. The current rate is $10 per hour.

Distance Learning Fee

A charge up to $50.00 per semester credit hour of instruction will be charged to students enrolled in courses offered by means of distance learning.

Private Lessons in Voice and Instrumental Music

Graduate applied music courses (per semester hour) $50.00
Maximum $150 per course.

Late Registration Fee

A charge of $10 is made for late registration or for paying after the start of the semester (not including the second or third payments under the installment plan).

Parking Fee

Each student who pays the necessary fee is issued a card that permits parking on the campus. This card is numbered and is to be displayed as instructed in official parking and traffic regulations, which are issued when automobiles are registered. Strict observance of traffic and parking regulations is necessary for the safe, orderly flow of vehicles in the campus area.

Charges for parking on campus are made at registration. Automobile registration fees are as follows: Fall Semester, $32; Spring Semester, $22; Summer, $12. Only one registration is required during an academic year, and a student's parking fee is honored until the end of Summer Session II.

Property Deposit

Each student will be required to pay a $10 property deposit. Any unused portion of the $10 will be refunded upon request to the Cashiers' Office after the student graduates or withdraws from the University. If a student attends the university for more than four years, this fee will be charged again.

Health and Accident Insurance

Health and accident insurance coverage is available for purchase at registration for students carrying nine or more semester hours. This or similar insurance is required of all international students. Additional information may be obtained from the Student Affairs Office.

Miscellaneous Fees

Microfilming of abstract and binding of first three copies of thesis	$53.65
Microfilming of abstract and binding of first three copies of field study or dissertation	77.30
Thesis, field study, or dissertation binding (each copy after the first three)	13.65
Diploma fees (with tax)	18.45
Cap, gown and hood (disposable) – Master's (plus tax)	42.83
Cap, gown and hood (rental) – Doctor's (plus tax)	51.00
Copyrighting	45.00
Transcript Fee	5.00
Photo Identification	5.00

Insufficient Funds Fees

Checks written to the University and returned unpaid for any reason will result in a $25 charge plus applicable fees for a delinquent account (e.g. $10 late registration fee, $15 late installment payment fee, etc.). Students with a returned check will be on "cash only" status for the duration of their enrollment at Lamar, subject to appeal. Students on a "cash only" basis are prohibited from paying with a personal check (all other payment methods are acceptable).

Fine and Breakage Loss

All library fines, charges for breakage or loss of equipment or other charges must be paid before a transcript of credit or a permit to re-enter the University will be issued.

Matriculation Fee

A matriculation fee of $15 will be incurred by students who withdraw prior to the first day of class. This $15 fee will be deducted from refunds.

Housing

Questions concerning the housing program, its policies, room and board rates, should be directed to the Cardinal Village, Lamar University, Box 10040, Beaumont, Texas 77710, (409) 880-8550.

Lamar offers doctoral degrees in audiology, chemical engineering, educational leadership, engineering and in deaf education, both flagship programs of the University with state-of-the-art facilities and expert faculty.

Academic Information

Course Numbering

Lamar University converted to the Texas Common Course Number (TCCN) prefixes and numbers in the fall semester of 1998. A crosswalk from previous numbers to the TCCN number is Appendix A. The TCCN is primarily for freshman and sophomore courses; however, the prefixes have been extended through all levels.

Each course has an alphanumeric code (e.g., ENGL 1301). The alpha portion is an abbreviation of the subject area, while the numeric portion provides specific information about the course. The first digit of the numeric portion indicates the level of the course (1=freshman level, 2=sophomore level, 3=junior level, 4=senior level, and 5 and 6=graduate level). The second digit indicates the number of semester credit hours earned by satisfactorily completing the course. The third digit is a sequencing number, or, if it is a 7, the third digit indicates the course is not in the TCCN. The fourth digit is a sequencing number. Master's level courses are numbered 5000. Doctoral level courses are numbered 5000 and 6000. Students are responsible for registering in the correct level of courses.

In this bulletin, three digits separated by colons, such as (3:3:1), will follow each course title. This code provides the following information: the first number is the semester hours of credit for the course; the second number is the class hours of lecture, recitation or seminar meetings per week; and the third number is the required laboratory hours per week. The letter "A" indicates that the hours are arranged, usually with the instructor of the course.

Texas Common Course Numbering System

The Texas Common Course Numbering System (TCCNS) is a voluntary, cooperative effort among Texas community colleges and universities to facilitate transfer of freshman (1000) and sophmore (2000) level general academic course work. Lamar University is a participant in this effort. The TCCNS provides a shared, uniform set of course designations for students and their academic advisors to use in determining both course equivalency and degree applicability of transfer credit on a statewide basis. When students transfer between two participating TCCNS institutions, a course taken at the sending institution transfers as the course carrying, or cross-referenced with, the same TCCNS designation at the receiving institution. For more information, including comparison tables between Lamar and other TCCNS institutions, see http://www.tccns.org.

Changing Schedules

All section changes, adds and drops, must be approved by the department chair of the student's major field. All such changes are initiated by the completion of the proper form available in the department chair's office. Usually, a course may not be added after the first two days of a regular or summer session.

Dropping Courses

After consultation with their advisor and/or department chair, students may drop a course and receive a grade of "Q" during the first six weeks (two weeks in the summer session) of the semester. For drops after this penalty-free period, grades are recorded as "Q" or "F" indicating that the student was passing or failing at the time of the drop. A

grade of "Q" may not be assigned unless an official drop has been processed through the Records Office. Students may drop a course using the Student Information System available via Lamar's website (ww .Lamar .edu). In addition, students may get a drop form from their major department and obtain the appropriate signatures before submitting it to the Records Office. A student may not drop a course within 15 class days of the beginning of the final examinations or five class days before the end of a summer term.

Students should check published schedules for specific dates. A written petition to the Dean of the College in which the course is offered is required of students wishing to drop after the official drop date. E-mails will not be accepted for drops.

Withdrawal from the University

Students wishing to withdraw from the university during a regular semester or summer term should fill out a Withdrawal Petition (available in the Records Office). Students must clear all financial obligations and return all uniforms, books, laboratory equipment and other materials to the point of original issue. However, if the student is unable at the time of withdrawal to clear financial obligations to the University and files with the Records Office an affidavit of inability to pay, the student will be permitted to withdraw with the acknowledgement that transcripts will be withheld and reentry to Lamar University will not be permitted until all financial obligations are cleared. Copies of the withdrawal form signed by the student and by the department chair must be presented to the Records Office by the student. The student will receive a receipt.

The Finance Office, on application before the end of the regular semester or summer session, will return such fees as are returnable according to the schedule shown under the "Fees" section of this catalog. If a withdrawal is made before the end of the sixth week (second week of a summer term) or if the student is passing at the time of withdrawal after the sixth week, a grade of "W" will be issued for each course affected. A grade of "F" may be issued for all courses not being passed at the time of withdrawal after the penalty free period.

A student may not withdraw within 15 class days of the beginning of final examinations during a regular semester or five class days before the end of a summer term. A student who leaves without withdrawing officially will receive a grade of "F" in all courses and forfeit all returnable fees. Students should check the published schedule for specific dates. Students wishing to withdraw after the official withdrawal date may submit a written petition to their Dean. E-mails will not be accepted for withdrawals.

Enforced Withdrawal Due to Health Reasons

The Director of the Health Center and the Vice President for Student Affairs, on the advice of competent medical personnel, may require withdrawal of or deny admission to a student for health reasons (mental or physical).

Academic Records

Academic records are in the permanent custody of the Records Office. Transcripts of academic records may be secured by an individual student personally or will be released on the student's written authorization. College transcripts on file from other colleges will not be duplicated by Lamar University's Records Office.

Students who owe debts to the University or who have not met entrance requirements may have their official transcripts withheld until the debt is paid or credentials are furnished.

Chapter 675, Acts of the 61st Legislature, 1969 Regular Session, provides that "no person may buy, sell, create, duplicate, alter, give or obtain a diploma, certificate, academic record, certificate of enrollment or other instrument which purports to signify merit or achievement conferred by an institution of education in this state with the intent to use fraudulently such document or to allow the fraudulent use of such document."

"A person who violates this Act or who aids another in violating this Act is guilty of a misdemeanor and upon conviction, is punishable by a fine of not more than $1,000 and/or confinement in the county jail for a period not to exceed one year."

Educational Records and Student Rights

The following information concerning student records maintained by Lamar University is published in compliance with the Family Education Rights and Privacy Act of 1974 as amended (PL93-380).

Access to educational records directly related to a student will be granted to him or her unless the type of record is exempt from the provision of the law.

The types, locations and names of custodians of educational records maintained by the University are available from the registrar.

Access to records by persons other than the student will be limited to those persons and agencies specified in the statute. records will be maintained of persons granted such access and the legitimate interest in each case.

The release of information to the public without the consent of the student will be limited to the categories of information which have been designated by the University as directory information and which will be routinely released. The student may request this information be withheld from the public by making written request to the Records Office. Directory information includes name, current and permanent address, telephone listing, date and place of birth, major and minor, semester hour load, classification, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, with dates, and the last educational agency or institution attended.

A student has the right to challenge records and information directly related to him or her if it is considered to be inaccurate, misleading or otherwise inappropriate. Issues may be resolved either through an informal hearing with the official immediately responsible or by requesting a formal hearing. The procedure to be followed in a formal hearing is available in the Records Office.

Prior consent is not required from a student to disclose information to the Comptroller General of the United States, the Attorney General of the United States, the Secretary of State and local educational authorities.

A reasonable attempt will be made by Lamar University to notify a student of a records request to comply with a judicial order or a lawfully issued subpoena.

The right of parental access to student records may be established by either of two methods: first, by the student filing a written consent statement and, second, by the parent validating the student's dependence as defined by the internal Revenue Service.

A student has the right to file a complaint with the U.S. Department of Education concerning alleged failures by Lamar University to comply with the requirements of FERPA.

Summons

An official summons takes precedence over other university activities of the student and should be answered promptly on the day and hour designated. Failure to heed an official summons may subject the student to serious disciplinary action.

Falsification of Records

A student who makes a false statement to any university official or office or on any official form submitted to the University is subject to immediate dismissal.

Student Debts

The University is not responsible for debts contracted by individual students or student organizations and will not act as a collection agency for organizations, firms or individuals to whom students may owe bills.

Students and student organizations are expected to honor contractual obligations promptly.

Penalty for failure to clear up these obligations may be (a) no readmission, (b) withholding of grades and transcripts, (c) withholding of degree.

Parking

At registration, each student who pays the necessary fee is issued a permit which allows parking on the campus. This permit is numbered and is to be attached to the back of the rear-view mirror of the car.

Change of Address or Name

Students are responsible for all communications addressed to them at the address on file in the Office of Student Development, in the Office of the College of Graduate Studies and in the Records Office. Any student who moves during a semester must immediately register the change of address in the above offices. Change of address forms are available in the Records Office.

Change of name due to marriage, or correction of name because of spelling errors, should be made by completing a name change card at the Records Office. All name changes must be accompanied by a copy of the legal document making the name change official. This document will be kept on file in the student's official folder. Students are advised that former names will be carried on all official transcripts.

Class Attendance

Regular class attendance is important to the attainment of the educational objectives of the University. Instructors should keep attendance records and should formulate an

attendance policy consistent with departmental policies but suited to the needs of the particular course. The instructor's policy is to be explained in detail to the class at the beginning of the semester.

Student Absences on Religious Holy Days

Under Texas Education Code, Section 51.911, Lamar University shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an exam or complete an assignment from which the student is excused within a reasonable period of time after the absence.

Texas Education Code, Section 51.911, defines a religious holy day. If a student and an instructor disagree about the nature of the absence being for the observance of a religious holy day as defined therein, or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the Provost. The student and the instructor shall abide by the decision of the Provost.

College of Graduate Studies

History

The College of Graduate Studies was instituted in Fall 1960 with the offering of the Master of Arts degree in the fields of history and English.

In 1962, master's degrees were begun in mathematics, engineering and elementary education; in 1965, in business administration, chemistry, special education and secondary education; in 1968, in health and physical education, political science, speech-language pathology, audiology, and guidance and counseling; in 1969, in biology, and in 1970, in educational supervision. Also in 1970, a doctor's degree in engineering was authorized. In 1972, a master's degree in school administration was approved. Master's degrees in public administration and in psychology were authorized in 1974. In 1975, master's degrees in music, music education and home economics were initiated. In 1981 the Master of Science in Deaf Education was approved and the Master of Engineering Management degree was begun in 1983. A Master of Science in Computer Science was added in 1984. Master's degrees in Environmental Science and in Environmental Engineering were added in 1990. A Doctor of Education in Deaf Education was approved in 1993. A master's degree in nursing administration began in 2000. The Doctor of Audiology and a master's degree in nursing education were approved in 2003, the Doctor of Education in Educational Leadership in 2004 and the Doctor of Philosophy in Chemical Engineering in 2005.

Objectives

The objectives of the College of Graduate Studies are as follows:

1. Advancement of knowledge through research.
2. Intensification within a student's chosen field of specialization and allied areas.
3. Development of the student's skill in the methodology of research.
4. Promotion of the power of independent thought by teaching students to take charge of their own intellectual advancement.
5. Introduction to the profession and its organization and protocols.

Degrees Offered

Master of Arts

Art History, English, History, Visual Art

Master of Business Administration in

Accounting, Experiential Business and Entrepreneurship, Financial Management, Healthcare Administration, Management Information Systems, Nursing Adminstration (dual degree), and Service Management and Marketing

Master of Education in

Administration, Counseling and Development, Educational Technology, Elementary Education, Reading (certificate), Secondary Education, Special Education and Supervision

Master of Engineering or Master of Engineering Science in

Chemical Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering

Master of Engineering Management

Master of Music

Master of Music Education

Master of Public Administration

Master of Science

Applied Criminology, Audiology, Biology, Chemistry, Community Psychology, Computer Science, Deaf Education, Environmental Engineering, Environmental Studies, Family and Consumer Sciences, Industrial and Organizational Psychology, Kinesiology, Mathematics, Nursing, Speech-Language Pathology, Theatre

Doctor of Audiology

Doctor of Education in Deaf Education

Doctor of Education in Educational Leadership

Doctor of Engineering

Doctor of Philosophy in Chemical Engineering

Regulations

Student Responsibility

It is the responsibility of each student to know the regulations of the Graduate College and the major department, to enroll in the appropriate course work to complete the degree plan, and to maintain the standards of the University, the College of Graduate Studies, and specific departments and programs.

Enrollment

Admission to Graduate Programs

All students seeking admission to a graduate degree program must first meet the minimum standards of the College of Graduate Studies. Applicants must also have the approval of the department in which the degree program is offered. **The admission standards of departments may exceed those of the College of Graduate Studies.**

Applications for admission to graduate programs are processed by the Graduate Admissions Coordinator. The Graduate Admissions Coordinator sends to graduate programs only those applications which meet the minimum standards of the College of Graduate Studies. The graduate departments then select those to be recommended to the Graduate Dean for admission. **NOTE: Meeting the admission standards of the Graduate College does not imply admission to a particular degree program.** The Graduate Dean notifies the Graduate Admissions Coordinator of admission decisions and the Coordinator provides written notification of admission status to the applicants. Statements by other university officers concerning the applicant's admissibility are not valid until confirmed by the Graduate Dean.

Admission to any degree program is valid for one year from the admission date. The applicant who does not enroll during that period will be required to resubmit all application materials and meet the admission standards in force at the time of the second application.

Graduate students wishing to change from one major field to another must make application to the Office of the Graduate Dean and must meet all specific program admission requirements for the new major.

1. **Application Deadlines:** Domestic students (U.S. citizens and permanent residents) must submit all application materials at least 30 days before Fall, Spring, or Summer registration. Deadlines for international students are April 15 for Fall semester, September 1 for Spring, and January 15 for Summer terms.
2. **Application Submission by Domestic Students (U.S. citizens or permanent residents):** Applicants for admission to the College of Graduate Studies must submit the following to the Graduate Admissions Coordinator at least 30 days before registration.
   A. **Completed Application Form**
   B. **Transcripts.** Submit an official transcript sent directly from each college or university attended to the Graduate Admissions Coordinator. All transcripts submitted to Lamar University become the property of the University and are not returnable.
   C. **GRE and GMAT Test Scores.** With two exceptions, all prospective graduate students are required to submit scores on the Graduate Records Examination (GRE). Applicants should have the Educational Testing Service, which administers the GRE, send test scores directly to Lamar University. The two exceptions to the GRE requirement are applicants for the Master of Business Administration (MBA) and deaf applicants. MBA applicants are not required to take the GRE but *must* submit scores on the Graduate Management Admission Test, GMAT. See the College of Business section of this *Bulletin* for specific requirements. Deaf applicants may substitute performance intelligence and reading ability test scores for the GRE. **GRE and GMAT scores more than five years old will be accepted only with permission of the Graduate Dean.**
3. **Deaf applicants** who have a severe or a profound hearing loss acquired congenitally or prelingually will be considered on an individual basis and need not submit GRE or GMAT scores. In lieu of GRE/GMAT scores, deaf applicants must submit above-average performance intelligence scores (preferably the performance scale of the WAIS-R) and above-average university grades, pass an interview with an admission committee comprised of faculty from the receiving department, and demonstrate adequate literacy and communication skills for graduate training. Literacy in this case includes both the reading and writing of English, but not necessarily equivalent to hearing norms. Communication skill may be demonstrated in sign language and/or speech.
4. **Admission Standards for Domestic Students (U.S. citizens and permanent residents):**
   A. **Undergraduate Degree.** A prospective student must have a bachelor's degree from an institution approved by a recognized accrediting agency.
   B. **GRE Scores and Grade Point Average (GPA).** All applicants for full admission, except for deaf students and those seeking admission to the MBA program, must meet the institutional GRE and GPA standard according to the formula (GPA X 200) + (GRE V+Q) ≥ 1350. The GPA used in the formula may be either the overall undergraduate GPA or the last 60 semester hours of undergraduate

work, whichever is higher. The grade point average is calculated by dividing the total number of grade points earned by semester hours considered (either the total number of semester hours attempted or by the last sixty semester hours). For this computation "A" equals 4 grade points, "B" equals 3, "C" equals 2, "D" equals 1, and "F" equals 0. Individual departments may have GRE and GPA standards that exceed the institutional minimum. See the department sections of this catalog for admission standards that vary from the institutional minimum.

C. **GMAT Scores.** Admission to the Master of Business Administration (MBA) program is based in part on a formula that considers both the undergraduate GPA and the GMAT score. See the College of Business section of this catalog for details.

D. **MAT Scores.** Admission to the Master of Nursing (MSN) program is based in part on a formula considering both the undergraduate GPA and the Miller Analogies Test (MAT) scores. See the Department of Nursing section of this catalog for details.

E. **Undergraduate Grade Point Average.** Our admission standard of (GPA X 200) + (GRE V+Q) ≥ 1350 is such that lower GPAs require higher GREs. Similarly, for the College of Business, the admission formula considers the GPA in such a way that the GMAT and GPA are interdependent (the GPA minimum "floats" in relationship to the applicant's GMAT score). See the College of Business section of this catalog for details.

F. **Provisional Admission.** In those departments or programs that have admission standards exceeding the institutional minimum, Lamar allows, at departmental discretion, provisional admission. A student admitted provisionally must complete the first nine semester hours of graduate work with a GPA of at least 3.0. A student who does not meet the 3.0 GPA after nine semester hours is subject to dismissal.

G. **Undergraduate Work in Intended Major Field, Prerequisites and Deficiencies.** The applicant for graduate study ordinarily must have completed no fewer than 24 semester hours of undergraduate work in the intended major field, 12 of which must be at the junior and/or senior level. Applicants who do not meet this requirement may be required to make up such deficiencies as prescribed by the graduate major. A GPA of 3.0 for assigned deficiency/leveling courses must be maintained and grades below "C" will not be accepted. Departments which wish to do so may establish more stringent requirements. MBA students with deficiencies will be required to complete first year MBA courses as determined by the College of Business with a grade of "C" or better and an overall GPA of "B" or better in all course work taken.

5. **Admission Procedures and Standards for International Students.** International students are required to follow the procedures and meet the standards for domestic students as stated above. Additional requirements for international students include the following:

A. **Transcripts.** International students must submit official certified transcripts from all colleges and universities attended. If the transcripts are not in English, the student must provide certified translations.

B. **TOEFL score.** Most international students whose first language is not English must take the Test of English as a Foreign Language (TOEFL) and score better than 525 or 195 on the computer-based test. Lamar University must receive the official TOEFL scores issued directly from the Educational Testing Service (ETS) before admission can be granted. TOEFL scores are valid for two (2) years from the test date. ETS will not issue official scores that are more than two years old. For information about testing dates and places, write to TOEFL, PO Box 899, Princeton, NJ 08540, USA. Except for the Doctor of Engineering degree, which requires a TOEFL score of 530 or better, the TOEFL is not required of those international students who have received an undergraduate or graduate degree from a university where English is the language of instruction (e.g., universities in the United States, Canada, and England). As part of the orientation process, international students with relatively low but passing TOEFL scores will be required to take one or more additional English as a second language (ESL) proficiency examinations and may be required to participate in ESL coursework as part of their graduation requirements.

C. **TWE Score.** International students who are required to take the TOEFL must also submit scores for the Test of Written English (TWE). The TWE is available at the same test centers that administer the TOEFL. The minimum TWE score required by Lamar University is 5. Those scoring less than 5 may be admitted to Lamar University but will be required to enroll in English as a Second Language Courses.

D. **Proof of Financial Resources.** International students must prove that they have the financial resources to attend Lamar University. As part of the application process, international students must submit an original Confirmation of Financial Resources form that asks for personal, family, and/or sponsor financial information and a bank verification of financial holdings. All international students are required to have health and accident insurance for themselves and all their dependent family members in the United States. Insurance may be purchased at the University during the registration period.

E. Proficiency in spoken English may be required by some graduate programs.

6. **Admission Procedures and Standards for Doctoral Degrees.** Prospective Doctor of Engineering (D.E.) students must send a letter to the Dean, College of Engineering, Box 10057 Lamar University, Beaumont, TX, 77710. The letter should give information on the applicant's engineering experience, current employment, and major research interests. For details on GPA, GRE, TOEFL and background requirements, see the College of Engineering section of this catalog.

   Prospective Doctor of Education in Deaf Education (Ed.D.) students must send a letter to the Chair, Department of Communication Disorders (Speech and Hearing), Box 10076 Lamar University, Beaumont, TX 77710. The letter should give information on the applicant's deaf education experience, training, employment history, current employment, and major research interests. Deaf applicants are encouraged, and experience as a teacher of the deaf is required. For details on GPA, GRE, TOEFL, and background/experience requirements, see the College of Fine Arts and Communication section of this catalog.

Admission Requirements for the Program

Students applying to the doctoral program in Educational Leadership (Ed.D.) should be currently or previously involved in education-related careers and/or activities and have education leadership experience encompassing a large number of settings, including schools, colleges and universities, health and human services agencies, and community-based organizations. The Executive Council will consider the following admission factors, and strength in one area may be weighed favorably against shortcomings in another:

1. Evidence of a completed master's degree from an accredited university in an area related to the proposed studies, with a minimum grade point average of 3.5 on a 4.0 scale for courses applied toward a graduate degree.
2. Commitment and demonstration of interest in education as a career and commitment to the advancement of education through professional leadership as indicated by:
   a) An essay of approximately 500 words on the applicant's background, professional career goal, and reason for pursuing a doctorate degree.
   b) an interview with program faculty.
3. Regular admission will be based on the following formula: [GPA (last 60 hours) x 200] + (GRE V + Q) = or > 1350.
4. Three letters of completed references addressing the applicant's professional and academic background. (Use Reference Rating Form).
5. Send applications to: Center for Research and Doctoral Studies, Box 10034, Lamar University, Beaumont, TX 77710

Prospective Doctor of Philosophy in Chemical Engineering (Ph.D.) students should refer to the College of Engineering section (page 123) of this catalog, for admission standards.

7. **Readmission of Former Graduate Students.** A former graduate student who has not maintained continuous enrollment for two semesters (summers excluded), but who is academically eligible to continue in the graduate degree program where he or she was most recently enrolled, may be permitted to return, assuming the program is not at capacity. The procedures are dictated by the period of absence from enrollment as follows:
   1. **Less Than Two Years.** The student must notify the Graduate School and the program coordinator or department chair of his/her plans to return. A new application must be submitted, and official transcripts must be provided if the individual has enrolled in another university since leaving Lamar University.
   2. **Two to Four Years.** A new application must be submitted and endorsed by the department chair or program director and by the Graduate Dean. The application must show any intervening graduate work, and he/she must provide official transcripts of such work. The applicable admission standards are those that were in effect when the student originally enrolled.
   3. **Four or More Years.** The student is considered a new applicant, and new supporting materials are required. The applicable standards are those in effect when the student applies for readmission. Coursework more than six years old may not be counted toward a graduate degree.

Appeal of Admission Denial

Prospective students who have been denied admission to the College of Graduate Studies have the right to appeal to the appeals committee in the College to which they applied. The Committee considers appeals on an individual basis and makes recommendations to the Graduate Dean. Contact the Office of Graduate Studies (219 Wimberly Building) for complete details on the appeals process.

Admission for Nondegree Students Post Baccalaureate (PB)

1. **Definition.** The Post Baccalaureate (PB) classification carries undergraduate status, does not culminate in a graduate degree, and should not be considered as a means to enter graduate school. The PB admission category is designed primarily for students who do not intend to earn a graduate degree but wish to enroll in graduate courses. The PB classification may be used by students who are seeking teaching certificates, but it must be understood that PB status does not lead to a master's degree. Except for students classified as Pre Graduate (PG), all students who enroll in graduate courses without meeting admission standards or completing the admission process are given PB status.
2. **Admission.** To receive the PB classification, the applicant must:
   A. Have received a bachelor's degree.
   B. Submit an application for admission with PB status to the Graduate Admissions Coordinator.
   C. Submit an official transcript from each college previously attended, showing highest degree earned.
   D. Be approved for admission with PB status by the University.
3. **Enrolling in Courses as a PB Student.** PB students are not permitted to enroll in graduate courses without the prior consent of the chair of the department offering the course/s desired. PB students are not permitted to enroll in graduate business courses without the prior consent of the Associate Dean of the College of Business. PB students who want to enroll in elective undergraduate courses for personal or professional development are advised through the Center for Adult Studies – 106 Montagne Center.
4. **PB Classification and International Students.** International students will not be admitted with PB status.
5. **Application of PB Credits toward a Graduate Degree.** If a PB student is eventually admitted to the Graduate College, a maximum of six semester hours earned under PB classification may be applied toward a graduate degree if approved by the department and by the Graduate Dean. In addition to these 6 hours, if a student is admitted to the graduate school during a semester in which the student is taking further graduate hours, those further hours will be counted towards the degree.
6. **Competitive Graduate Scholarships and Assistantships for PB Students.** PB students are not eligible for graduate assistantships and scholarships.

Pre Graduate (PG)

1. **Definition:** The PG admissions category is designed primarily for students who intend to enter a graduate program and earn a graduate degree but have not yet met all admission standards and/or submitted all application materials. The Pre Graduate (PG) classification carries undergraduate status and does not culminate in a graduate degree unless the student is eventually admitted to graduate school. The PG status allows the prospective graduate student to enroll in a limited number of graduate courses while completing the application and acceptance process.
2. **Admission:** To receive the PG classification, the applicant must:
   A. Have received a bachelor's degree.
   B. Submit an application for regular admission to the Lamar University College of Graduate Studies **and** a PG application form to the Graduate Admissions Office.
   C. Be approved for admission with PG status by the University.
3. **Enrolling in Courses as a PG Student:** PG students are not permitted to enroll in graduate courses without the prior consent of the chair of the department offering the course/s desired. PG students are not permitted to enroll in graduate business courses without the prior consent of the Associate Dean of the College of Business.
4. **PG Classification and International Students:** International students will not be admitted with PG status.
5. **Application of PG Credits toward a Graduate Degree:** If a PG student is eventually admitted to the College of Graduate Studies and to a graduate program, a maximum of six semester hours earned under PG classification plus current enrollment may be applied toward a graduate degree if approved by the department and by the Dean of the College of Graduate Studies.
6. **Competitive Graduate Scholarships and Assistantships for PG Students:** PG students are not eligible for graduate assistantships, fellowships, or scholarships.

Academic Policies of the College of Graduate Studies

All graduate students are expected to be familiar with the policies and regulations of the College of Graduate Studies.

1. **Academic Year.** The University divides the academic year into two long semesters (Fall and Spring) and two summer terms of 6 weeks each.
2. **Time Limit for Degree Completion.** All course work applied toward a given degree, except for doctoral degrees, must be completed within a period of six years. This time limit applies to all work at the graduate level, including work transferred from another institution. Time spent in active military service is not included in the six-year limit. Because of Immigration & Naturalization Service regulations, a shorter period may apply to international students.
3. **Maximum Semester Course Load.** The maximum course load for graduate students during Spring and Fall semesters is 15 hours per term. The maximum course load for graduate students for any one summer term is 6 semester hours, or 7 hours if a

lab is taken. These maximums apply even when the graduate student is enrolled in a combination of graduate and undergraduate courses.

4. **Definitions of Full and Part-Time**. A full-time graduate student is defined as a student taking at least nine semester hours of graduate work during Fall or Spring semesters, or enrolled in ENGR 6601 or 6602 (doctoral field study). After completing the course work for a graduate degree, students who are enrolled in a thesis, dissertation, or field-study course may be considered full-time even though they are enrolled in as little as three semester hours. In the summer, full-time is 3 hours per term. Students taking fewer than 9 hours in the Fall and Spring semesters and fewer than 3 hours in the summer sessions are considered part-time. Full-time status may be required for certain fellowships and scholarships.
5. **Deferring Graduation**. International students who wish to defer graduation by taking additional course work after their original degree plan has been completed must meet one of the following conditions: (1) admission to the new program must be granted by the new major department, and a new Form I-20 must be issued indicating the new major program of study and the length of time for completion of the second degree; ***or*** (2) the student must be enrolled full time (9 hours in long semesters and 3 hours in each summer semesters), ***and*** permission must be given in writing by the major department as well as the department where additional course work is to be taken stating that said course work is required for the original degree. All additional course work must be taken for credit and a grade must be earned. Students may not petition for "no-grade" (NG).
6. **Permission for an Undergraduate Student to Enroll in Graduate Courses, Reservation of Work by Undergraduates for Graduate Credit**. An undergraduate student who is within 12 semester hours of graduation may take a maximum of six semester hours of graduate courses that may be applied toward a master's degree. Both the chair of the intended graduate program and the Graduate Dean must approve, and the total academic load may not exceed 15 semester hours. The G-11 form, available in the Graduate Office (219 Wimberly) and in departmental offices, is used to obtain permission.
7. **Dual Degrees**. Graduate students wishing to take dual degrees must apply to and be accepted by both major departments. It is not required that completion of both major degree plans occur simultaneously. In addition, international students must comply with all Immigration & Naturalization Service federal regulations governing enrollment and employment opportunities. It is the student's responsibility to keep both major departments appraised of his/her continuing dual degree status and to be aware of how this may effect any financial assistance from one or both of those departments. A dual degree candidate is still subject to all the academic policies listed herein.
8. **Transfer of Graduate Credits to Lamar University**. With the approval of the chair of the major department and the Graduate Dean, a student may transfer up to six semester hours of graduate work completed at another regionally-accredited institution, and these transferred credits may be applied toward a graduate degree at LU. Only courses with grades of "A", "B" or "S" (satisfactory) that were accepted as graduate credit at the institution where the work was taken may be considered for graduate transfer. Transferred credits are not considered in the computation of the graduate grade-point average at Lamar University.

9. **Application of Institute Hours toward a Degree.** A maximum of six semester hours of work done in institutes may be approved for graduate credit toward a degree. Institutes are defined as graduate courses of less than three weeks' duration.
10. **Application of Credits from One Master's Degree toward a Second Degree.** A maximum of six semester hours taken for one master's degree may be counted toward a second master's degree with the approval of the department in which the second degree is sought.
11. **Use of Advanced Undergraduate Courses toward a Graduate Degree.** Undergraduate courses, even if senior-level, may not be applied toward a graduate degree.
12. **Correspondence Credit, Credit by Examination, and Course Work Earned through Distance Learning.** Courses taken by correspondence and credits earned through examination are not accepted toward graduate degrees. Courses completed through Distance Learning may be applied toward a graduate degree if approved by the student's graduate committee.
13. **Course Duplication, Repeating a Course.** With approval of the chair of the major department, a student may enroll for a course a second or subsequent time and have it count as part of the semester's load. If a course is repeated, the last grade recorded will be considered the official grade, but the original grade remains on the student's record as a course taken. A repeated course will be included in the student's cumulative record and in the computation of the GPA. Independent study/special topics courses may have the same course number but are not considered to be the same course if the topics differ. If a student earns a D or F in a course required for his/her graduate degree, the course must be repeated and a passing grade of A, B, or C must be earned.
14. **Change of Major.** Except in the College of Business, changes of major must be approved by the chair and/or the graduate advisor in the new graduate program and by the Graduate Dean. In the College of Business, changes must be approved by the Associate Dean and by the Dean of the College of Graduate Studies. New international students may begin the process of changing majors during their first semester but may not actually make the change until their second term. Obtain forms for changing majors (G-16) at the Graduate Office (219 Wimberly). Caution: financial assistance provided by an academic department is usually not transferable to other departments. Students who change their major and transfer from one department to another may lose their financial assistance.
15. **Enforced Withdrawal or Course Drop.** A graduate student may be required to drop a course or courses or withdraw from the University temporarily or permanently if the student's academic work is below the standards of the College of Graduate Studies (see discussion of probation/suspension below), or if the student is found (through due process) to have engaged in academic dishonesty or misconduct. In those programs that provide clinical training or student teaching (e.g., audiology, speech-language pathology, nursing, education and human development), a student can be removed from practicum and/or the program if it is found (through due process) that he/she is a threat to the well-being of patients, students, clients, etc.
16. **Academic Dishonesty, Misconduct, Discipline Code.** Student conduct regulations, as found in the Lamar University *Student Handbook*, apply to all graduate

students. These regulations include policies relating to academic dishonesty, plagiarism, University disciplinary code, and student rights and responsibilities. It is the responsibility of all graduate students to read the *Student Handbook* and to abide by all University regulations.

17. **Grading System.** The grading system for graduate students is "A" (superior), "B" (good), "C" (marginal), "D" (poor), "F" (fail), "I" (incomplete), "S" (satisfactory), "U" (unsatisfactory), Drop, and Withdrawal. Credits applicable to graduate degrees are given only for the grades A, B, C, and S. Although C grades earned at Lamar University may be counted toward the requirements for a graduate degree, C grades are not considered acceptable graduate-level performance. Courses in which a student earns only a D or F may not be counted toward a graduate degree, although such grades are calculated in determining the grade-point average. Grades of C, D or F must be compensated for by the necessary hours of A if the student is to have the 3.0 grade-point average required before awarding the degree. In computing grade-point averages, an "A" is valued at four grade points, a "B" three, a "C" two, a "D" one, and an "F" zero. An overall grade point average (GPA) of "B" (3.0) on all graduate work attempted is required for graduation. Thesis students must receive a "NG" for Thesis courses until the thesis is approved. Thesis grades are not included in the computation of grade point averages. Incomplete work that is not finished during the next long semester (Spring or Fall) will be credited with an "F." International students must receive a "NG" for courses (such as Graduate Projects) that have not been completed, and should not receive an "I" in any course. With compelling justification, the Graduate Dean may grant an extension of the time limit for the completion of incomplete work.
18. **Grade Change.** After a degree has been conferred, no transcripted grade may be changed except those assigned to graduate students in their final semester. Such changes require the approval of the Executive Vice President for Academic Affairs.
19. **Additional Departmental GPA Requirements.** A department or graduate program may impose GPA standards for its majors that exceed those of the Graduate College when approved by the Dean of the academic college.
20. **Admission of Faculty to Graduate Degree Programs.** Lamar University faculty will not be permitted to work toward a graduate degree within their own department. To pursue a graduate degree in another department, faculty must have the approval of the Graduate Dean.
21. **English Proficiency Required of International Students for Graduation.** International students whose first language was not English are required to pass an English proficiency test before they may be admitted to candidacy for a graduate degree. The test is not used as an admissions requirement to the Graduate College and is taken after the student is admitted and arrives on the Beaumont campus. International students who do not pass the test are required to enroll in an English as a Second Language (ESL) course until they pass the test.
22. **Rule Changes.** The University reserves the right to change any of its rules, regulations, or course requirements without notice.
23. **Waiver of Regulations.** Graduate students have the right to file a petition for exemption from any academic regulation of the Graduate College. Petitions for

exemption are considered by the Graduate Appeals Committee, which makes recommendations to the Graduate Dean. Decisions of the Graduate Dean may be appealed through administrative channels (i.e., to the Executive Vice President for Academic Affairs, then to the University President, the Chancellor, and finally to the Board of Regents).

24. **Open Records Policy**. Student records, which generally include information concerning the student and the student's individual relationship to the educational institution, are available on request to Lamar University personnel who have an educational interest in the records. Individual records are also accessible to the student in question. Without written consent of the student, records are not released except as noted above.

Quality of Work Required, Probation/Suspension Regulations

The graduate student must maintain a 3.0 grade point average on all courses that receive graduate credit, whether or not they are to be applied toward a graduate degree. Leveling and elective courses taken for graduate credit are included in the computation of the grade point average. A student whose GPA in graduate work falls below 3.0 must make up the deficit, either by repeating courses in which the grades are low or by completing other graduate courses with grades high enough to bring the GPA up to 3.0.

Graduate students who do not meet the academic standards of the Graduate College will be placed on probation or suspended. Students on probation may enroll in graduate courses but may not apply for graduation. Suspended students may be temporarily or permanently denied permission to enroll in graduate courses. In computing graduate academic status, all graduate work taken during the previous six years except thesis and field study courses apply. Graduate work taken at another institution will be included in the computation of semester hours toward a degree only when that work is applied toward a degree in progress at Lamar University. Transferred credits will not be used in the computation of the graduate grade point average at LU.

1. **Minimum Academic Performance**. Graduate students with grade point averages of 3.0 or better are in good standing. Students with GPAs below 3.0 will be placed on probation or suspended. International students must complete a minimum of nine semester credit hours in each long semester. Therefore, an incomplete (I) grade is not acceptable for maintaining status with immigration.
2. **Probation**. Students with full graduate admission status who fail to achieve and maintain an overall grade-point average of 3.0 after the completion of 12 semester hours of graduate enrollment will be placed on academic probation. Students on probation who fail to raise their GPA above 3.0 within 12 semester hours of graduate work will be suspended. Students on probation may enroll in courses but may not apply for admission to candidacy or for graduation. The probationary status applies whether or not the student receives a letter of notification from the Graduate Office.
3. **Suspension**. A graduate student who has been placed on probation and who fails to raise his/her GPA to at least 3.0 within 12 semester hours of graduate enrollment will be suspended. Suspended students may enroll in summer graduate courses, and they may enroll in undergraduate courses during spring, fall, or summer

semesters. Undergraduate grades earned while on suspension will not be used in the computation of the graduate GPA. Suspension for the fall semester may be removed if the student raises the graduate GPA to at least 3.0 during summer terms. The first academic suspension shall be for one long semester (fall or spring), and the second suspension will be for two long semesters. The third suspension will be permanent.

4. **Transfers to New Major Departments by Students on Probation/Suspension.** Suspended students may be admitted to another department only after they have completed their suspension, provided that they meet the admission standards of the new graduate major. Students on probation may transfer to a different graduate program with the approval of the chair of the new program but will remain on probation until their GPA is 3.0 or better.
5. **PB and PG Students and Probation/Suspension.** Post Baccalaureate students taking graduate course work are not subject to probation or suspension until they have been admitted to the graduate college and a graduate degree program.
6. **Grades Earned in Deficiency, Leveling, or Background Courses.** A GPA of 3.0 must be maintained for all undergraduate and graduate courses assigned as deficiency, leveling, or background work by the student's major department. Such courses must be repeated if grades of "D" or less are received.
7. **Additional Departmental Regulations.** A department, with approval from the appropriate academic dean, may require its majors to meet additional standards with regard to probation, suspension, and dismissal. These may be found in the appropriate departmental section of this catalog.

General Degree Requirements

1. Students must earn the number of semester hours of graduate credit specified by their major departments. Specific details may be found in the departmental section of this Bulletin.
2. Any student who writes a thesis must defend it orally before his/her committee. Students who do not write theses must pass a comprehensive examination, which may be oral, written, or a combination of both. Please consult the departmental section of this catalog for specific details.
3. The student must meet the specific requirements as set forth in this catalog for a particular degree program.

Master of Arts

1. Meet all general degree requirements.
2. If writing a thesis, complete 30 semester hours of graduate work: 18 in the major field, six in thesis, six in an approved minor or six additional hours in the major.
3. If not writing a thesis, complete 36 semester hours of graduate work approved by the graduate committee.
4. Except for the non-thesis option in history, candidates for the M.A. degree must present evidence of a reading knowledge of at least one foreign language. This requirement may be satisfied by examination or by submitting college credit equivalent to that required for the degree of Bachelor of Arts in this institution.

Master of Business Administration

1. Meet all general degree requirements.
2. Complete 30 hours of second year MBA courses specified under College of Business degree requirements if a thesis is written, plus any first year MBA courses required.
3. If a thesis is not written, complete 36 hours of second year MBA courses as specified under College of Business degree requirements, plus any first year MBA courses required.

Master of Education

1. Meet all general degree requirements.
2. Complete 30 semester hours of graduate work if a thesis is written or 36 semester hours if a nonthesis program is selected.
3. Meet the specific requirements listed in the College of Education section of this catalog for each degree program.

Master of Engineering

1. Meet all general degree requirements.
2. Complete 36 semester hours of graduate work or complete 30 hours of graduate work plus a three-hour design project.

Master of Engineering Science

1. Meet all general degree requirements.
2. Complete 30 semester hours of graduate work, including six semester hours in thesis.
3. Meet the specific requirements listed in the College of Engineering section of this catalog.

Master of Music (Performance)

1. Meet all general degree requirements.
2. Complete 30 semester hours of graduate work: 12 hours in the Applied Major, six in Music Literature, six in Music Theory and six in Music Education.
3. Special requirements in addition to the above: a formal public recital and a research paper OR a lecture recital.

Master of Music Education

1. Meet all general degree requirements.
2. Complete 36 semester hours of graduate work: 18 in Music Education, six in Music Literature, six in Music Theory, and six in Thesis.
3. Exceptions: six additional hours in Music Education may be substituted for the Thesis, and six hours in Applied Music may be substituted for Music Education courses.

Master of Science in Nursing

1. Meet all general degree requirements.
2. Complete 37 semesters hours of graduate work: 15 hours of graduate nursing core courses, 13 hours in the track (Nursing Administration or Nursing Education), and 9 hours of support courses.

3. Complete at least 4 hours of Advanced Role Practicum in the selected track.
4. Meet the specific requirements listed in the College of Arts and Sciences, Department of Nursing section of this catalog.

Master of Public Administration

1. Meet all general degree requirements.
2. Complete 36 semester hours of graduate work as specified for the degree in the Department of Political Science section of this catalog.
3. Pass both oral and written comprehensive final examinations.

Master of Science

1. Meet all general degree requirements.
2. Complete 30 semester hours of graduate work: 15 to 18 semester hours in the major field, six in thesis, and six to nine semester hours in the minor field. With the approval of the head of the major department, a student may elect to take all work in the major field.
3. If a thesis is not required, complete 36 hours of approved course work.
4. The graduate degree in psychology requires 36 hours in approved course work and six hours in thesis.
5. Students applying to the Computer Science program must satisfy the depth and breadth requirements as defined by the Graduate Faculty of the Computer Science Department.

Doctor of Audiology

1. Complete 86 semester credits of didactic coursework required by graduate faculty.
2. Complete 66 semester credits of clinical practicum.
3. Satisfactorily complete an approved Candidacy research project
4. Satisfactorily pass a Comprehensive examination
5. Satisfactorily complete a oneyear fulltime externship in the student's fourth year of the program.

Doctor of Education in Deaf Education

1. Obtain credit for all courses required by the student's doctoral committee. The number of these courses will depend upon the student's pre-doctorate educational preparation, previous experience, and specialization emphasis during the program. In general, a 30-semester hour core curriculum and a minimum of 30 semester hours of electives/cognates for a total of 60 semester hours beyond the Master's degree.
2. Satisfactorily pass preliminary written and oral examinations after the completion of 18 semester hours.
3. Complete a four semester (1 calendar year) residency requirement.
4. Obtain admission to candidacy by completing all coursework required for the degree, complete 12 hours of dissertation credit following admission to candidacy, and successfully defend the dissertation prior to graduation.

Doctor of Education in Educational Leadership

1. Complete 60 semester hours: 24 hours of core courses, 12 hours in research, 12 hours in dissertation, and 12 hours in the concentration(s) and electives. All coursework, including successful defense of the dissertation, must be completed within ten years.
2. Obtain credit for all courses required by the student's doctoral committee. The number of these courses will depend upon the student's pre-doctorate educational preparation, previous experience, and specialization emphasis during the program.
3. For admission to candidacy, complete student proficiency assessment comprised of a portfolio, synthesis paper, and oral presentation.
4. Following admission to candidacy, complete 6 hours of dissertation courses and defend dissertation proposal. Complete 6 additional hours of dissertation and successfully defend dissertation.

Doctor of Engineering

1. Obtain credit for all courses required by the student's doctoral committee. The number and extent of these courses will depend upon the student's diagnostic examination, engineering experience, and educational objectives. In general a minimum of 30 semester hours of 5000 and 6000 level course work, excluding ENGR 6601 and ENGR 6602, beyond the equivalent of a master's degree will be required.
2. Complete a residency of one year.
3. Satisfactorily pass candidacy examinations as required by the student's doctoral committee.
4. Complete a field study, normally 30 semester hours, involving some technological innovation.
5. Submit and defend a formal engineering report on the field study.

Doctor of Philosophy in Chemical Engineering

Details of degree requirements are available in the College of Engineering section (page 120) of this catalog.

Advisement and Admission to Candidacy

New graduate students do not have an advisory committee and are advised by the chair of the major department or a member of the graduate faculty designated as the initial advisor.

Graduate students are not considered to be candidates for a degree until they have completed a specified set of graduate courses and have proven their academic capability. In some programs students must pass a qualifying exam before being admitted to candidacy. Students who have been admitted to candidacy are assigned an advisory committee, and the committee establishes a graduation plan.

1. **Initial Advisement.** For the first 12 hours of graduate work, students are advised by the chair of the major department or a member of the graduate faculty who has been designated by the chair as the initial advisor. In the College of Business, all graduate students are advised each semester by the Associate Dean.

2. **Timing of Admission to Candidacy.** Admission to the Graduate School does not imply admission to candidacy for a graduate degree. Students seeking a graduate degree must be admitted to candidacy **after** completing a minimum of 12 semester hours of graduate study and **before** their last 9 semester hours.
3. **Restrictions and Prohibitions to Admission to Candidacy.** Graduate students may not be admitted to candidacy if they a) are on probation, b) are suspended, c) have not removed all undergraduate deficiencies, and/or d) have not completed at least 12 hours of recommended graduate courses. International students required to pass the Michigan Test to indicate English proficiency must do so before they can be admitted to candidacy.
4. **Procedure for Applying for Admission to Candidacy.** The student is responsible for initiating the process for admission to candidacy by submitting the "Application for Admission to Candidacy for Master's Degree" form (G2) to the chair of the major department. The form is available in the Graduate Office (219 Wimberly Building) and departmental offices. Students should submit the form after completing 12 graduate hours but before enrolling in their final 9 hours.
5. **Recommendation of Advisory Committee and Degree Plan.** After receiving the "Application for Admission to Candidacy for Master's Degree" form (G2), the departmental chair or the designated graduate advisor submits a recommended degree plan and suggested graduate committee to the Graduate Dean by filing a "Recommendation for Admission to Candidacy for Master's Degree" form (G3). If these recommendations are approved, the student is admitted to candidacy. The graduate dean has the option of appointing additional members to an advisory committee.
6. **Composition and Roles of the Advisory Committee.** The advisory committee will include a member of the graduate faculty designated as the supervising professor along with at least two other members of the graduate faculty. The committee will assist in monitoring/supervising the remainder of the student's program, including revision of the degree plan; supervision of research; writing and approval of the thesis, field study report, or dissertation; and administration and evaluation of the final comprehensive examination.
7. **Candidacy Examinations.** Departments may require passing examination scores in the admission to candidacy process.

Summary of Graduate School Master's Degree Requirements

Language requirement	M.A. only
Minimum GPA for good standing	3.00
Minimum TOEFL (international students)	525
Probation	less than a 3.00 GPA
Suspension	less than a 3.00 GPA for more than 12 hours
Maximum transfer	6 semester hours

Maximum PB credits toward degree.....6 semester hours
Minimum thesis credits .....6 semester hours
Time limit for degree.....6 years
Maximum age of GRE scores.....5 years
Minimum credit hours, most degrees.....36 semester hours
Minimum credit hours, second degree.....30 semester hours
Maximum registration, long semester .....15 semester hours
Maximum registration, summer term.....6-7 semester hours
File for candidacy.....after 12 hours and before final 9 hours

Doctor of Audiology

A student will be admitted to candidacy for the Doctor of Audiology degree only upon recommendation of his/her doctoral committee. In general, this committee will require the following:

1. An undergraduate degree in communication disorders or related field
2. GPA of 3.0 or better (based on 4 pt. scale)
3. Competitive GRE score
4. 3 letters of recommendation
5. A written essay on career goals
6. Personal interview

Doctor of Education in Deaf Education

A student will be admitted to candidacy for the Doctor of Education in Deaf Education degree only upon the recommendations of his/her doctoral committee. In general, this committee will require the following:

1. Satisfactory progress in all course work.
2. Continuous pursuit of the degree by earning at least three semester hours credit in a two consecutive semester period. Any student who does not do so must apply to the graduate faculty in deaf education for permission to continue in the program.
3. Preparation of a proposal for a research study involving deaf studies/education issues and defense of this proposal to a doctoral committee as part of the candidacy examinations.
4. Passing satisfactorily other examinations designed to determine whether the student is ready to do the dissertation.

A student who fails to be admitted to candidacy on the first attempt may take additional courses or otherwise prepare for an additional attempt as may be recommended by the doctoral committee. Any student who does not meet the minimum requirements as established by the student's doctoral committee may be required to withdraw from the doctoral program.

Doctor of Education in Educational Leadership

A student will be admitted to candidacy for the Doctor of Education in Educational Leadership upon the recommendations of his/her doctoral committee. In general it requires the following:

1. Satisfactory progress in all course work.
2. Continuous pursuit of the degree by earning at least six semester hours credit in two consecutive semesters each year. Any student who does not do so must apply to the Director of the Doctoral Program in Educational Leadership for permission to continue in the program.
3. Completion of a comprehensive student proficiency assessment which occurs in the course EDUD 6353: Synthesis Seminar. This has three components: a portfolio, synthesis paper, and synthesis paper oral presentation.
4. Defense of the dissertation proposal in an oral examination. (See Doctoral Handbook).

Failure to meet successfully all candidacy requirements will result in a review of the student's program by the student's academic advisor and the Executive Council. They will recommend a course of action to the Dean of the College of Graduate Studies regarding continuation. Work that must be redone must be submitted within one academic year. Results of the second proficiency assessment are final.

Students must advance to candidacy within three years of initiating coursework on the Ed.D. All students are expected to maintain continuous enrollment and register for dissertation hours until the dissertation has been completed and defended. Students must be registered for the Dissertation course at the time of their graduation. The maximum number of dissertation credit hours that apply toward graduation is 12.

Doctor of Engineering

A student will be admitted to candidacy for the Doctor of Engineering degree only upon the recommendations of his/her doctoral committee. In general this committee will require the following:

1. Satisfactory progress in all course work.
2. Continuous pursuit of the degree by earning at least three semester hours credit in two consecutive semesters. Any student who does not do so must apply to the graduate engineering faculty for permission to continue in the program.
3. Prepare a proposal for a field study involving a technological innovation and defend this proposal to a doctoral committee as part of the candidacy examinations.
4. Satisfactorily pass other examinations designed to determine whether the student is ready to do the field study.

A student who fails to be admitted to candidacy on the first attempt may take additional courses or otherwise prepare for an additional attempt as may be recommended by the doctoral committee. Any student who does not meet the minimum requirements as established by the student's doctoral committee may be required to withdraw from the doctoral program.

Doctor of Philosophy (Ph.D.) in Chemical Engineering

A student will be admitted to candidacy for the Doctor of Philosophy (Ph.D.) in Chemical Engineering only upon the completion of the following steps:

1. Be admitted into the Doctor of Philosophy (Ph.D.) in Chemical Engineering program.
2. Satisfactorily progress in all course work.
3. Pass a written qualifying examination.
4. Submit a degree plan within one year after passing the Ph.D. written qualifying examination and get approval.
5. Complete and defend the dissertation proposal and get approval.
6. Complete a minimum of 12 graduate credit hours.

The details of the degree requirements may be found in this catalog under the Chemical Engineering Department, College of Engineering.

Advisory Committees

Members of a student's advisory committee are appointed by the Graduate Dean upon recommendation by the Chair of the student's major department at the time the student is admitted to candidacy. After admission to candidacy, but before the date of the final examination or the oral defense, the student may request a change in the committee composition with the approval of the student's Department Chair. If the Department Chair does not approve a request for a committee change, the student may request the Graduate Dean to appoint a three member Review Committee. In the event the Review Committee fails to effect an agreement between the student and the original committee, a new committee may be selected for the student by the Graduate Dean, the Dean of the student's academic college, and two members of the graduate faculty of the student's academic college chosen by the Graduate Dean. The time period should not exceed 10 class days from the date of receipt by the Graduate Dean of a written request for review and arbitration by the student and the appointment of a new committee, should one be necessary.

Thesis Requirements

A thesis is required for the Master of Science degrees in chemistry and psychology and for the Master of Engineering Science degree. It is also required for the Master of Arts in Visual Arts degrees in Studio Art and Art History. It is not available in programs leading to the Master of Public Administration and Master of Music degrees, or the Master of Education degrees in Counseling and Development, or in School Administration. A thesis is optional in all other degree programs. Students who write theses are expected to follow the procedure below.

1. Register for the departmental thesis course with the approval of the student's graduate advisor. The first registration is for Thesis 5390; all subsequent registrations are for Thesis 5391. No grade will be entered for Thesis 5390 or Thesis 5391 until Thesis 5391 has been completed. All students are expected to register for Thesis 5391 until the thesis has been completed, and all students must be registered for Thesis 5391 at the time of their graduation. NOTE: No academic credit is given for thesis courses until the thesis has been approved and accepted by the major department and the College of Graduate Studies. At that time six semester hours credit will be awarded with a grade.
2. Write a thesis under the direction of the supervising professor. The form and style of the thesis must follow the thesis guidelines which are available from the College of Graduate Studies.
3. Submit a single, unbound copy of the thesis in final form to the Dean of the College of Graduate Studies at least 10 days before the oral defense and at least 30 days before the date of graduation.

4. Defend the thesis orally at least 10 days before the date of graduation at a time and place specified by the supervising professor. The defense must be scheduled in the Graduate College at least 10 days before the defense is to be held. The supervising professor will report the results of the defense to the College of Graduate Studies within two working days.
5. Submit three official final copies of the thesis on rag content paper to the Graduate College at least 10 days before graduation. Additional copies may be turned in for binding at the same time if desired or if required by the student's major department. All copies must be signed by the student's supervising professor and committee members, department head, and academic dean.
6. Submit two extra copies of the thesis abstract and a completed University Microfilms form at least 10 days before graduation.
7. Pay all binding and abstract publication fees in the University Bookstore at least 10 days before graduation.

Non-Thesis Requirements

1. Each candidate for a graduate degree who does not write a thesis must pass a comprehensive final examination that must be taken during the last semester of attendance and at least 10 days before the conferral of the degree. The form of this examination is determined by the student's major department and may be oral, written, or a combination of both. An exception to this rule exists for Audiology/Speech-Language Pathology: those students who pass the ASHA national boards may be exempt from master's oral and/or written comprehensive examinations.
2. A student registers for the comprehensive examination by applying for graduation in the Graduate College. Applications must be filed **before** the deadline established by the Graduate College. Those deadlines are:

For December graduation	First Monday in October
For May graduation	First Monday in March
For August graduation	First Monday of Summer Term I

Specific dates will be found in the calendar at the front of this Bulletin.

3. If all requirements for graduation except the comprehensive examination have been completed, the student may take the examination during a later semester without being enrolled in the College of Graduate Studies.
4. All oral examinations must be scheduled in the Office of the Graduate Dean at least 10 days prior to the date of the examination. The Dean may attend or may send a representative to attend.
5. Written comprehensive examinations will be administered in accordance with the following schedule.

Fall Term	First Thursday in November
Spring Term	First Thursday in April

NOTE: Written comprehensive examinations will be given only once during the summer: on the last Monday of the first summer term. If this date conflicts with the July 4 holiday, the examinations will be given on the last Monday in June. For specific dates, please consult the official calendar in the front of this Bulletin or call the Graduate College for details.

6. Failure to pass a comprehensive examination in three attempts will result in a student's being permanently suspended from that degree program. The examination may be taken only once each term. Students suspended under this provision may be admitted to another degree program if they meet the required standards and are accepted by the new degree program.

   A department may prescribe additional academic requirements for its majors with the approval of the Dean of the College of Graduate Studies.

Special Topic Projects

A Special Topic Project may be required for some degrees. Those taking Special Topic Projects will be required to be continuously enrolled in the course until completion. If a student is unable to complete this course in one semester, a "no grade" (NG) will be given, and the student must re-enroll in this course until completion.

Graduation Procedure

Students who intend to graduate at the end of a particular semester must apply for graduation in the office of the Graduate Dean on or before the official deadline for application as established by The College of Graduate Studies.

Participation in commencement exercises is not required for the receipt of a graduate degree, though participation is strongly recommended. Graduating students who elect not to attend graduation exercises should notify the Graduate Dean.

College of Arts and Sciences

The College of Arts and Sciences offers programs of study leading to the Master of Arts degree in the fields of English and history; the Master of Science degree in the fields of applied criminology, biology, chemistry, nursing and psychology; and the Master of Public Administration degree. In addition, graduate study is available in geology and sociology as areas of support or specialization in other advanced degree programs.

Persons seeking admission to these programs must meet the requirements specified by the College of Graduate Studies and the individual department. Admission to a degree program is not an admission to candidacy.

Department of Biology

The Department of Biology offers a program of study leading to the Master of Science in biology degree. It is designed to enhance the professional competence of graduates in biology or closely related disciplines who are presently engaged in or planning to enter secondary school or college teaching, or who expect to be employed by private or governmental agencies in biologically oriented fields.

Applicants must:

1) have completed a minimum of 24 semester hours in the biological sciences, including eight hours of general biology (BIOL 1406 & 1407 or the equivalent) and a course in genetics. Excluded from the 24 hours is Anatomy & Physiology (BIOL 2401 & 2402),
2) have completed a minimum of one semester of organic chemistry and one semester of statistics,
3) remove any deficiencies as provided in the section on admission,
4) meet the admission standards of the College of Graduate Studies,
5) in addition, score 950 (V + Q) on the GRE and have a GPA of 2.5/4.0 overall or 2.75 on the last 60 semester hours of undergraduate work.
6) All students entering the graduate program in biology must have the sponsorship of a member of the biology graduate faculty.

Degree Requirements

The candidate for the M.S. in biology must meet all the College of Graduate Studies general requirements as listed in this catalog. For their professional development, students must enroll in BIOL 5110 Graduate Seminar. They may take the course a maximum of two times; any subsequent enrollments will not count toward the degree.

Thesis option:

This option is strongly recommended for those who plan to continue graduate work beyond the master's level.

1. Submit a written proposal for the thesis. After the thesis proposal is written, pass an oral examination before the biology graduate faculty on the experimental design of the proposed thesis and related disciplines. Note: This requirement is a prerequisite to achieving candidacy and should be completed during the first year of enrollment and **must** be completed by the end of the second year of the program.
2. Thirty-three hours of graduate credit. All course work will be in biology. Exceptions must be approved by major advisor and by the Chair, Department of Biology.

Non-Thesis option:

This option is intended for those not seeking a higher degree.

1) Complete 39 semester hours of graduate credit.
2) File for candidacy when one-half of the coursework is completed.
3) Pass a written comprehensive exam on biology before achieving candidacy.

Graduate Faculty

Associate Professor Ana B. Christensen
Physiology, comparative and environmental physiology, respiratory pigments

Assistant Professor Dennis K. Flaherty
Medical Microbiology, immunology, toxicology

Professor Richard C. Harrel
Limnology, ecology, invertebrate zoology

Assistant Professor Andrew C. Kasner
Avian ecology, marine biology, conservation/management

Associate Professor Paul F. Nicoletto
Biology and zoolog

Assistant Professor Randall G. Terry
Botany, systematics, molecular biology

Professor Michael E. Warren
Entomology, mosquito biology

Assistant Professor Randall H. Yoder
Parasitology, parasite ecology

Biology Courses (BIOL)

5100 Materials and Techniques of Research 1:1:0
Survey of laboratory and library research techniques, instrumentation and materials requisite to scientific investigatiou. Required of all entering graduate students.

5110 Graduate Seminar 1:1:0
Current topics in biological research. See requirement 3 under Degree Requirements.

5301, 5401 Special Topics 3-4:A:0
Research in areas other than thesis.
Prerequisite: Approval of graduate advisor. May be repeated when topic changes.

5305 Systematic and Evolutionary Biology 5:3:0
A survey of evolutionary mechanisms from molecular to population levels. Consideration of speciation, adaptation and historical geology.

5390-5391 Thesis 3:A:0
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

5405 Immunology 4:3:3
Organs, tissues, cells, and molecules of the immune response and their interactions.
Prerequisite: Microbiology, BIOL 2420.

5406 Parasitology 4:3:3
A graduate level study of the morphology, life history and hostparasite relationships of parasites of man and other animals.
Prerequisites: General Biology, BIOL 1406 and 1407.

5410 Animal Behavior 4:3:3
An analysis of the development and significance of various behavior patterns in animals from an evolutionary point of view.

5430 Limnology 4:3:3
A graduate level study of fauna, flora, ecology and productivity of fresh water.

5431 Ichthyology 4:3:3
Natural history, taxonomy and ecology of freshwater and marine fishes. Required field trip.

5440 Vertebrate Natural History 4:3:3
Collection, identification and natural history of area fish, amphibians, reptiles, birds and mammals. (Offered Spring semester)

5445 Herpetology 4:3:3
Natural history, taxonomy and ecology of amphibians and reptiles. Required field trip.

5450 Mammalogy 4:3:3
Natural history, taxonomy and ecology of mammals. Required field trip.

5455 Marine Biology 4:3:3
A graduate level field study and identification of area species; current research. Required field trips.
Prerequisite: Invertebrate Zoology, BIOL 3460, or Marine Biology, BIOL 4450.

5460 Ecology 4:3:3
A graduate level quantitative approach to both field and experimental studies. Interrelationships of organisms and their environment.
Prerequisites: General Biology, BIOL 1406 ond 1407.

5470 Ecology of Polluted Waters 4:3:3
Analyses of effects of water pollutants on aquatic ecosystems.
Prerequisite: Bio 443.

5475 Cell Biology/Histology 4:3:3
A graduate level study of structural and physiological functions of cells at the biochemical and molecular level. Laboratory emphasis on structure and function of mammalian cells and tissues.
Prerequisites: Organic Ghemistry, CHEM 3411, General Biology II, BIOL 1407;
Recommended: BioChemistry, CHEM 4411.

5480 Aquatic Entomology 4:3:3
Biology morphology, life history and classification of aquatic insects. Field trips and personal collection required.

5485 Epidemiology 4:3:3
A graduate level study of the distribution and determinants of diseases and injuries in human populations. Laboratory utilizes a case history approach.
Prerequisites: Microbiology, BIOL 2420; Statistics, PSYC 2471 recommended.

5490 Comparative Physiology 4:3:3
Fundamental physiological processes in animals from the Phylogenetic viewpoint.
Prerequisites: Advanced Physiology, BIOL 3440, or Anatomy and Physiology, 24012402, Organic Chemistry, CHEM 3412 and math through Calculus.

5495 Molecular Genetics 4:3:3
Genomic architecture and function, applications of recombinant technology, gene regulation, and genomic evolution. Laboratory includes exposure to basic methods of DNA isolation, purification, use of restriction enzymes, electrophoretic analyses, recombinant methodology, PCR, southern blotting.

Department of Chemistry and Physics

The Department of Chemistry and Physics offers a program of study leading to the Master of Science degree in Chemistry. Those seeking admission to this program must meet the general requirements as set forth in this catalog for admission to the College of Graduate Studies and must have a minimum grade point average of 2.75 on the last 60 hours of undergraduate work or 2.50 on all undergraduate work. In addition, the applicant must offer the substantial equivalent of the course in general chemistry, inorganic chemistry, analytical chemistry, organic chemistry and physical chemistry required of undergraduate students in the chemistry curriculum. The applicant also must have completed one year of college physics and mathematics through integral calculus.

Degree Requirements

The candidate for the M.S. degree in Chemistry must meet all the College of Graduate Studies general degree requirements as listed in the catalog. Additional specific degree requirements are as follows:

Thesis Option

This option is strongly recommended for those who plan to continue graduate work beyond the master's level. The thesis option requires a minimum of 30 hours to include:

1. Fifteen to eighteen semester hours of course work in Chemistry which must include CHEM 5310, 5330, 5350, and 5370 and at least one 5000 level Selected Topics course in Chemistry with a grade point average of "B" (3.0) or better.
2. Presentation of a thesis.
3. Six to nine additional semester hours of 5000 or higher level courses in an approved field of study.

Non-Thesis Option

This option is intended for those not seeking a higher degree.

1. Complete 36 semester hours of graduate credit. A minimum of 21 hours in Chemistry is required which must include CHEM 5310, 5330, 5350, and 5370 and at least three 5000 level Selected Topics courses in Chemistry with a grade point average of "B" (3.0) or better. The remaining 15 hours must be in Chemistry or an approved field of study.
2. File for candidacy when one-half of the coursework is completed.
3. Pass a written, comprehensive exam on Chemistry during their last term before graduation.

Graduate Faculty

Assistant Professor Bogdana Bahrim
Atomic and Surface Physics

Assistant Professor Cristian Bahrim
Theoretical Atomic and Molecular Physics

Assistant Professor Paul Bernazzani
Physical Chemistry, Biophysics, Polymer Physics

Associate Professor Kenneth Dorris
Physical Chemistry, Environmental Chemistry

Associate Professor George Irwin
Nuclear and Solid State Physics

Associate Professor Richard Lumpkin
Computational Chemistry, Inorganic Chemistry

Assistant Professor Christopher Martin
Organic Chemistry

Professor Dale Ortego
Inorganic Chemistry, Environmental Chemistry

Professor Shyam Shukla
Analytical Chemistry, Environmental Chemistry

Assistant Professor Maxim Soukhodolets
Biochemistry

Professor Wayne Rabalais
Physical Chemistry, Surface Science

Chemistry Courses (CHEM)

5111 Chemical Literature 1:1:0
Prerequisite: Graduate standing.

5121 Graduate Seminar 1:1:0

5310 Advanced Analytical 3:3:0
Prerequisite: Graduate standing or consent of instructor.

5330 Advanced Inorganic 3:3:0
Prerequisite: Graduate standing or consent of instructor.

5341 Inorganic 3:3:0
Prerequisite: CHEM 4311.

5350 Advanced Organic 3:3:0
Prerequisite: Graduate standing or consent of instructor.

5351 Organic Polymer Chemistry 3:3:0
Prerequisite: CHEM 3412.

5370 Advanced Physical 3:3:0
Prerequisite: Graduate standing or consent of instructor.

5301 Special Topics 1-6:1-6:0-6
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as the demand requires.
Prerequisite: Departmental approval.

5390-5391 Thesis 3:A:0
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

5411 Biochemistry I 4:3:4
Prerequisite: CHEM 3412.

5412 Biochemistry II 4:3:4
Prerequisite: CHEM 5411.

Physics Courses (PHYS)

5101 Special Topics 1:1:0
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as demand requires.

5301 Special Topics 3:3:0
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as demand requires.

5310 Experiments in Physics 3:1:6

5370 Solid State Physics 3:3:0

5401 Special Topics 4:3:3
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as demand requires.

5480 Modern Optics 4:3:3

Department of Computer Science

The Department of Computer Science offers a program of study leading to the Master of Science degree in Computer Science. Both thesis and non-thesis options are available.

The objective of the master's degree is to produce professional computer scientists capable of contributing technically to the basic core areas of computer science as well as to application areas. A mixture of courses, laboratory, and research work in the program is designed to place graduates at the forefront of technical excellence.

Research

The department engages in a broad-based research program. Current faculty research interests include computer-aided geometric design, intrusion detection and computer security, artificial intelligence, wireless and sensor networks, theoretical computer science, and computer architecture.

Computing Facilities

The Computer Science Department has six switched Ethernet laboratories attached to the gigabit-bandwidth campus network infrastructure through which Lamar University is connected to the Internet and World Wide Web. The equipment in the labs is abundant

and available to all students. It is comprised of a diverse assortment of hardware and software including Intel-based PCs, Sun workstations and servers, dual AMD Opteron servers, and robots. The department offers image and video processing equipment for multimedia-related classes. Software for advanced courses and research in database, network simulation, symbolic computation, neural networks, continuous and discrete simulation, artificial intelligence and computer graphics can be readily accessed from our servers. Wireless access to the Internet is in place within the Maes Building where Computer Science is housed. Research grants fund much of the research equipment.

The department enjoys a friendly working relationship with local and national companies. The department's Industrial Advisory Council is composed of representatives from regional/state industries and high-tech firms.

Admission to the Graduate Program

Students seeking admission to this program must meet all general requirements of the College of Graduate Studies as listed in the Bulletin of the College. Additional requirements are as follows:

1. In most cases, a student must have a minimum combined score of 1000 on the Verbal and Quantitative sections of the GRE and a minimum grade point average of 3.0 on the last 60 hours of undergraduate course work.
2. A ranking in the 34th percentile of the verbal portion of the GRE; for applicants whose native language is not English, a TOEFL score of at least 550 also is required;
3. Demonstrated adequate background in programming a high-level modern language such as Java or C++, Data Structures, Compilers, Operating Systems and Computer Architecture. Equivalency tests are offered for a fee to those students whose transcripts do not show convincing background knowledge in one or more of the areas mentioned above. Each test may be taken only once;
4. Students with minor deficiencies may be admitted to the program if these deficiencies can be removed within approximately one long semester. However, major deficiencies must be removed before a student is admitted to the degree program; and
5. At least 15 hours of mathematics including differential and integral calculus, discrete mathematics and two other courses selected from statistics, linear algebra, abstract algebra, numerical analysis and differential equations.

Students not satisfying both conditions 1 and 2 will not be admitted to the computer science program. Those students who satisfy both conditions 1 and 2 but who are deficient in other areas may be provisionally admitted to the program and may enroll in graduate-level courses.

Admission to Candidacy

After removal of all deficiencies and upon completion of an additional 12 hours of graduate credit, the student is required to submit a formal degree plan to the Computer Science Graduate Adviser and the Dean of the Graduate School. Every student must submit a G3 form to the GRADUATE STUDIES office before she/he completes the final nine hours of graduate credit in the degree plan.

Admission to candidacy is granted by the Dean of the Graduate School after the degree plan has been approved.

Background Requirements

Students must be able to demonstrate sufficient undergraduate computer science background before beginning courses towards the M.S. program. The following undergraduate background courses or their equivalents are required: C++ and Unix (COSC 3306), **Data Structures** (COSC 2336), **Operating Systems** (COSC 4302), **Compiler Design** (COSC 4307), and **Computer Architecture** (COSC 43 10). These prerequisites can be taken **at the same time as required graduate courses,** but they do not count toward the graduate degree. Beginning in the spring, 2006 semester, students must make at least a "B" grade in all prerequisite courses in order to satisfy the undergraduate background requirements.

Students **may be excused from a prerequisite course if they are able to pass a competency exam** given on the content of the associated course. Before each semester a competency test is given for each prerequisite course by the Computer Science Department for a fee of $75 per examination. Each examination may be taken only once, but examinations do not have to be taken before the first semester of enrollment. The tests can be taken later in the student's program, but courses requiring one or more of the five prerequisite courses, mentioned above in paragraph one, cannot be taken unless either the prerequisite course has been completed successfully or the corresponding competency test has been passed. In some cases, students may also be excused from a prerequisite course if they have courses on their transcripts that the Computer Science Department considers **equivalent in content** to the prerequisite. The content of courses taken in other institutions is not necessarily the same as courses taken with the same title in Lamar University. We are not interested in having students take extra courses, but we do have to ensure that the soundness of our graduate level courses.

Very few incoming students who have not studied in the U.S. know C++ well, and almost none can program multithreaded applications in a UNIX environment. With respect to Computer Architecture, this course is waived if "Advanced Computer Architecture" appears in your transcript. The reason for this is that many students have had a class entitled "Computer Organization", "Microprocesseor", or even "Computer Architecture" that is not equivalent to what we offer.

In addition to the prerequisites, our M.S. program requires either 9 graduate courses and a thesis or I I courses and a one-semester project. In both cases, an oral defense is required in addition to a written report. If you are a full time student taking nine credit hours (i.e. three courses) during the fall and spring semesters and one course during each of the two five-week summer sessions, you will finish all of your work within two years.

Degree Requirements

A. Core Course Requirement (6 courses; 16 semester hours)

Students in the master's program in Computer Science are required to establish competence in several areas considered basic to the field of Computer Science. At least 28 hours of graduate work in computer science and a thesis or project are required for a master's degree in Computer Science. In order to qualify for the master's degree, the student must have a 3.0 GPA in all computer science courses and must earn a grade of B or better in each of the core courses. The Core Requirement consists of the indicated number of courses in each field listed below.

Number of Courses	Area of Computer Science	Courses
1	Graduate Seminar	COSC 5100
1	Analysis of Algorithms	COSC 5313
1	Advanced Operating Systems	COSC 5302

1	Computer Networks	COSC 5328
1	Foundations of Computing	COSC 5315
1	Software Engineering	CPSC 5360

B. Option I (Thesis)
   1. Completion of the core requirements.
   2. Students may take one or two courses outside of computer science with the approval of the department chair. At least a "B" (3.0) grade point average must be maintained in course work. At most three "C" grades are permitted in coursework, and each "C" must be balanced by an "A" in another computer science graduate level course. Students may not count courses taken in other departments to balance "C" grades made in the Computer Science Department.
   3. Completion of COSC 5390 and 5391 and submission of an acceptable thesis.
   4. Completion of a total of 34 graduate semester hours.
   5. Successful oral defense of the thesis. If failure occurs, the defense may be repeated. A second failure will cause the student to be dropped from the degree program in Computer Science.

C. Option II (Non-thesis)
   1. Completion of the core requirement.
   2. Students may take one or two courses outside of computer science with the approval of the department chair. At least a "B" (3.0) grade point average must be maintained in course work. At most three "C" grades are permitted in coursework, and each "C" must be balanced by an "A" in another computer science graduate level course. Students may not count courses taken in other departments to balance "C" grades made in the Computer Science Department.
   3. All non-thesis students must take and satisfactorily complete COSC 5369. This course consists primarily of a significant research project and the submission of a written professional report.
   4. Completion of a total of 37 hours in graduate level courses, including the final project.
   5. Successful completion of a comprehensive examination, which may be written, oral, or a combination of both upon determination of the Computer Science faculty. This comprehensive exam will cover the four core areas and may also include a programming component. Failure to pass this examination in two attempts will result in the student being dropped from the degree program in Computer Science.

Computer Science Specialization Areas:

Area	Courses
Artificial Intelligence	CPSC 5370, COSC 5312, COSC 5318
Graphics	COSC 4319, CPSC 5330*, COSC 5321, COSC 5335
Simulation/Modeling	COSC 5309, COSC 5336, COSC 5402
Software Engineering	CPSC 5360, COSC 5331
Database	CPSC 5340, COSC 5311, COSC 5332, COSC 5333
Architecture/Algorithms	COSC 5308, COSC 5310, COSC 5350, COSC 5313

Computer Networks	CPSC 5320, COSC 5328, COSC 5345
Symbolic Computation and Geometric Design	COSC 5348, COSC 5335
Distributed Systems	COSC 5333, COSC 5302

*Course numbers beginning with 4 are not graduate courses.

Alternate Work/Study

An enrolled student may alternate between study and employment as a formal part of her/his training. While working, the student might perform research and collect data for his/her thesis at a facility that offers technology not available at Lamar University. A letter from the student's academic advisor explaining why he or she is unable to conduct research on campus and must go to another research facility is required. Only students doing a thesis are eligible for alternate work/study.

Graduate Faculty

Professor Peggy Doerschuk
Artificial Intelligence, Neural Networks, and Robotics

Professor Hikyoo Koh
Automated Reasoning and Heuristc Search, Computation Complexity Theory and Programming Languages

Assistant Professor Chung-Chih Li
Computational Complexity, Algorithm Theorem Proving, Cryptography, Formal Machine Learning Theory, Artificial Intelligence and Natural Language Processing

Assistant Professor Jiangjiang Liu
Computer Architecture, Multimediaand Embedded Systems

Professor Lawrence Osborne
Computer Networks, Operating Systems, Distributed Systems and Graphics.

Assistant Professor Dehu Qi
Machine Learning, Artificial Intelligence, Data Mining, Web Intelligence, Neural Networks, Genetic Algorithms and Genetic Progmmming

Assistant Professor Bo Sun
Computer Security, Intrusion Detection, Simulation, and Distributed Systems

Associate Professor Quoc-Nam Tran
Computer Aided Geometric Design, Symbolic Computation, Hybrid Symbolic-Numerical Methods, Parallel Symbolic Computation and Automated Theorem Proving

Computer Science Courses (COSC)

5100 Graduate Seminar **1:1:0**
Topics include the scientific method and research process, library utilization and components and organization of various types of research papers. Writing exercises on the latter topics. Preparation, formal written report and presentation on a research topic.
Prerequisite: Admission to the M.S. program in Computer Science.

5302 Advanced Topics in Operating System **3:3:0**
Current research issues and advanced topics involving both the principles and pragmatics of operating systems specification, design and implementation. Study of concurrent processes, support structures for modular programming, resource allocation and protection, telecommunications, networks and distributed processing.
Prerequisite: CS 4302 or equivalent.

5307 Compiler Construction
A general approach to the design of language processors is presented independently of the target machine architecture and the source language. All phases of compilation and interpretation are investigated. Typical projects include implementation of a small compiler or a specialpurpose language.

5310 Advanced Topics in Computer Architecture **3:3:0**
Advanced topics in computer architecture such as RISC vs CISC, pipelined processors, vector processors, HDLs, language directed architectures and neural nets.
Prerequisite: CS 4310 or equivalent.

5311 Data Mining
Introduction to basic concepts behind data mining. A survey of *data* mining applications, techniques and models. Topics may include decision tables, classification rules, association rules, clustering, statistical and linear models.

5312 Advanced Topics in Artificial Intelligence **3:3:0**
Topics include, but are not limited to, knowledge representation, distributed cooperative AI, intelligent tutoring systems and semantic representation in natural language processing.
Prerequisite: CPSC 5370 or equivalent.

5313 Analysis of Algorithms **3:3:3**
Topics on what can and cannot be proven about computational complexity including algorithm design methodologies.
Prerequisite: COSC 2371 or COSC 4307 or equivalent.

5314 Logic and Discrete Structures in Computer Science
Topics from logic and discrete mathematics relevant to computer science are presented in order to introduce students to abstraction and formal proofs. The topics include sets, graphs, monoids, groups, discrete probability theory, and predicate calculus.

5315 Foundations of Computer Science
The foundations of computer science are studied in order to give a better understanding of the discipline. Topics include: logic, computational models, formal languages, computability and complexity theory.

5318 Design and Implementation of Expert Systems **3:3:0**
Problems in knowledge acquisition, knowledge representation issues, representation of meta-knowledge, use of statistical measures to limit search of the knowledge base, and knowledge verification.
Prerequisite: CPSC 2371 or equivalent.

5319 Advanced Topics in Compiler Construction **3:3:0**
An introduction to the major methods used in compiler implementation. The parsing methods of LL(k) and LR(k) are covered as well as finite state methods for lexical analysis, symbol table construction, internal forms for a program, run time storage management for block strnctured languages and an introduction to code optimization.
Prerequisite: COSC 4307 or COSC 3302 or equivalent.

5320 Formal Methods in Programming Languages **3:3:0**
Data and control abstractions are considered. Advanced control constructs including backtracking and non-determinism are covered. The affects of formal methods for program description are explained. The major methods for proving programs correct are described.
Prerequisite: COSC 4307 or COSC 3302 or equivalent.

5321 Computer Graphics
Introduction to computer graphics programming. Topics include graphics programming standards, two-and three-dimensional *rendering* pipelines, geometric models (including primitives, fonts, curves, and surfaces), affine transformations, orthogonal and perspective views, shading and lighting models, images and texture mapping, interactions and animations. A major project is given encompassing some or all of these concepts.

5328 Computer Networks **3:3:0**
A study of networks of interacting computers. The problems, rationales and possible solutions for distributed databases will be examined. Major national and international protocols including SNA, S.21 and X.25 will be presented.
Prerequisite: (CPSC 3310 or ELEN 3331), COSC 5341, and COSC 4302 or equivalent.

5330 Advanced Topics in the Theory of Computation **3:3:0**
A survey of formal models for computation. Includes Turing Machines, partial recursive functions, recursive and recursively enumerable sets, and the recursive theorem, abstract complexity theory, program schemes and concrete complexity.
Prerequisite: COSC 3302 or COSC 4307 or equivalent.

5331 Advanced Software Engineering **3:3:0**
Topics not limited to software development methodology, verification and reliability, software quality assurance and productivity, software engineering economics, models and metrics for software management and engineering, human performance engineering and software configuration management and control.
Prerequisite: CPSC 5360.

5332 Object Oriented Database Management Systems **3:3:0**
Introduction to object oriented databases. Topics including introduction to object oriented programming, the object-oriented data model, interface for defining and manipulating object oriented databases and other databases. Semantics and changes to the schema, query model, authorization model, architecture and implementation issues. Survey of current object oriented database systems.
Prerequisite: CPSC 5340.

5333 Distributed Computer Systems **3:3:0**
The study of the characteristics of a collection of autonomous computers linked by a network, with software designed to produce an integrated computing facility that intends to present a transparent virtual machine to application programmers.
Prerequisite: COSC 5328 and CPSC 5340 or equivalent or advisor approval.

5335 Advanced Topics in Computer Graphics **3:3:0**
The course focuses on topics current to the field and includes, but is not limited to, areas such as design and construction of computer graphics systems, both software and hardware, the theory and use of color and shading, and algorithms for solid object modeling.
Prerequisite: COSC 5321 or equivalent.

5336 Advanced Simulation and Modeling **3:3:0**
Current topics in both simulation methodology and applications. Distributed simulation, simulation support tools, object oriented simulation and artificial intelligence and simulation.
Prerequisite: COSC 4309, (MATH 1342 or MATH 3370), and MATH 2414 or equivalent.

5340 Special Topics **3:3:0**
Special topics in all areas of Computer Science with emphasis on topics not covered in other courses. May be repeated for credit when topics vary.
Prerequisite: consent of department chair.

5341 Problem Solving in High-Level Language **3:3:0**
Algorithms, pseudocode, structured techniques of problem solving and program design using high-level programming languages. Data sorting and searching techniques. Object-oriented design.
Prerequisite: A first programming language, MTH 1345, and MTH 234 or MTH 3370. Leveling course not for graduate credit in MSCS degree.

5342 System Design and Programming **3:3:0**
Principles of computer systems analysis and design, system hardware and software characteristics. Data representation and programming in assembly language. Computer storage structures, storage allocation and management. Design of typical system programs such as assemblers, compilers and operating systems, addressing techniques and core management, file system design and management.
Prerequisite: COSC 5341. Leveling course not for graduate credit in MSCS degree.

5350 Parallel Programming and Algorithms **3:3:0**
Taxonomy of parallel computers, shared-memory vs. message-passing architectures, theoretical models, parallel algorithm design strategies, parallel data structures, automatic parallelization of sequential programs, communication, synchronization and granularity.
Prerequisite: COSC 5313 or equivalent.

5360 Internship I **3:3:0**
This course provides practical experience with a company engaged in work related to a career in computer science. The purpose is career development before graduation. The course requires that the student obtain permission for Curricular Practical Training (CPT) from the International Student Office.
Prerequisite: Approval of department choir.

5361 Internship II **3:3:0**
A continuation of COSC 5360 for a second semester.
Prerequisite: Approval of department chair.

5369 Graduate Project **3:3:0**
Independent study and research of a specific problem in a field of computer science or its application. A report is required defining the problem and developing a solution. The work may be supervised by any member of the graduate faculty.
Prerequisite: 10 hours of graduate computer science credit including COSC 5100 with grades of A or B; prior approval of written plan by the faculty supervisor and by the computer science department chair. May not be repeated for credit.

5402 Pattern Recognition and Image Processing **4:3:3**
Principles and pragmatics of pattern recognition, digital image processing and analysis. Statistical pattern recognition: complete vs. incomplete approach (via supervised vs. unsupervised learning). Structural pattern recognition. Image processing: image acquisition and digitization, making decisions based upon the available features. Image segmentation (by clustering, textured images, range images and multispectral images) and registration.
Prerequisite: CPSC 5370 and advanced statistics.

5390-5391 Thesis **3:3:0**
Independent research of a specific problem in a field of computer science. The work will be supervised by a member of the graduate faculty of the Computer Science Department. To be scheduled only with the consent of the department. Six hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun.
Prerequisite: Consent of Department Chair.

Computer Information Sciences (CPSC)

5310 Computer-Aided Geometric Design
Mathematical techniques for the definition and manipulation of curves and surfaces. Coon's patches, Bezier Curves, B-splines, beta-splines, integration into various graphics rendering models, and computer-aided design systems are among the possible topics.

5320 Communication and Computer Networks **3:3:0**
Study of problems and limitations associated with interconnecting computers by communication networks. Quality of service, message and packet switching networks, network topology, routing, flow control, capacity assignment, protocols, wireless technology.
Prerequisite: COSC 5341 and COSC 4302.

5330 Advanced Topics in Multimedia Processing **3:3:0**
Television style viewing and sound interfacing to computer systems. Software and architectural interconnection requirements of digital interactive video and audio technology. Graphical user interface. Definition, examples, application, review of major implementations, and architecture of multimedia systems. Voice technology: synthesis, recognition and response. Student projects.
Prerequisite: A high level programming language.

5350 Advanced Topics in Applications of Expert Systems **3:3:0**
Theory and programming of expert systems. Introduction to expert systems. Introduction to a particular expert system, pattern matching, control techniques, efficiency in rule-based language, and expert system examples. A student term project is assigned.
Prerequisite: A high level programming language.

5360 Topics in Software Engineering **3:3:0**
Systems analysis, software requirements analysis and definition, specification techniques, software design methodologies, performance measurement, validation and verification and quality assurance techniques. Programming in an object oriented language.
Prerequisite: A high level programming language.

5370 Introduction to Artificial Intelligence **3:3:0**
Introduction to concepts and ideas in artificial intelligence. Topics include search techniques, knowledge representation, control strategies and advanced problem-solving architecture.
Prerequisite: A high level programming language and COSC 2371.

Department of English and Modern Languages

The graduate program of the Department of English and Modern Languages offers opportunity for intensive study of language and literature. Scholarly interests of members of the department include old and middle English, the Renaissance, Shakespeare, eighteenth century studies, English and American romanticism, the Victorian age, modern English and American literature, African American and Carribean literatures, and comparative literature. In addition to the study of literature through courses organized by genre, period and individual author, the student may explore the history and structure of language and language acquisition and the crafts of both creative and technical writing.

Degree Requirements

The degree of Master of Arts in English requires the completion of 30 semester hours of graduate work: 24 in English (or 18 with an approved six-hour minor), and six in thesis. In general, students are encouraged to emphasize graduate seminars (courses numbered 5000 or above) in their graduate coursework. In the non-thesis alternative, 12 semester

hours of coursework may be substituted for the thesis. The creative thesis, as well as the traditional critical thesis, is an option.

All students must have a minimum undergraduate grade point average of 2.5/4.0 overall or on the last 60 hours of undergraduate courses. In addition, international students must score at least 550 on the TOEFL before admission. Students interested in pursuing an M.A. degree in English whose undergraduate major was not English should consult the English department chair.

Depending on the student's undergraduate course work, the graduate program in English will ordinarily include English 5330, 5385, and two courses from 5350, 5360, 5370, 5380 or 5311.

Graduate Faculty

Professor Jerry W. Bradley
Modern American and British literature
Professor Lloyd M. Daigrepont
American literature before 1900
Associate Professor Paul A. Griffith
African American and Carribean literature
Professor R.S. Gwynn
Creative writing and post-modernism
Associate Professor Emma Hawkins
Old and Middle English language and literature
Professor Max Loges
Technical Writing
Professor Joseph E. Nordgren
Modern British Literature
Professor Dale G. Priest
English Renaissance, Eighteenth century
Professor James Sanderson
Creative writing, American literature
Professor Pamela S. Saur
German literature, the drama
Professor Sallye J. Sheppeard
Medieval and Renaissance literature and rhetoric, women's literature,mythological studies
Professor Stephenie Yearwood
Writing, English education, seventeenth century literature
Associate Professor Steven Zani
British Romanticism, comparative literature, critical theory

English Courses (ENGL)

5110 Composition Practicum 1:1:0
Practicum in the teaching of writing. Involves classroom experience, peer discussion and mentor consultation. Graded on S-U basis.
Prerequisite: Graduate teaching fellow standing.

5300 History of the English Language 3:3:0
Theory and nature of language. Stndies in the growth of English and American forms.

5305 Writing in the Elementary School 3:3:0
An introduction to principles and practices of writing instruction for elementary (E-4) teachers including writing process, modes of organization, forms, grammar and assessment.

5310 The Teaching of Writing and Research Techniques 3:3:0
An introduction to major theories of composition, to research in the teaching of composition and to pedogogical techniques for teaching writing.

5311 Special Topics in Comparative Literature 3:3:0
Intensive study of an author or authors, genre or period selected from the range of world literature. Emphasis on analysis and literary method. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5312 Studies in Language and Linguistics 3:3:0
Special problems in linguistics, such as the history of American English, regional dialects, new grammars. May be taken for credit more than once if the topic varies.

5313 Special Topics in English Instruction 3:3:0
Intensive study of theory and pedagogy of language for secondary teachers.
Prerequisite: Graduate standing.

5314 Studies in Critical Theory 3:3:0
Advanced study of the relationship between form and content in various modes of media, discourse, and criticism. Emphasis on major figures and methodology in contemporary literary theory.

5315 Studies in Women's Literature 3:3:0
Poetry, prose, and/or drama by women from classical times to the present. May be taken for credit more than once if the topic varies.

5316 Studies in Victorian Literature 3:3:0
Poetry and prose of the Victorian period. May be taken for credit more than once if the topic varies.

5317 Modern Drama 3:3:0
Dramatic trends and representative plays from Ibsen to the present.

5318 Modern Poetry 3:3:0
Poetic developments in England and America with emphasis on representative poets from Hardy to the present.

5319 Modern Fiction 3:3:0
Prose fiction representative of modern ideas and trends, with emphasis on English and Continental authors.

5320 The Teaching of English as a Second Language 3:3:0
Techniques for teaching basic English skills and literature to nonnative speakers. Sociocultural aspects of second language learning.

5321 Cultural Foundations of ESL 3:3:0
Cultural and historical foundations of ESL teaching, types of programs, advocacy, cultural diversity, teaching diverse learners.

5322 Language Foundations of ESL 3:3:0
Principles of second language acquisition, structure of English for ESL learners, patterns of oral and written discourse.

5323 Introduction to Linguistics 3:3:0
Background in the nature of language and linguistic changes as a basis for describing and comparing language systems: focuses on a description of the phonological, morphological and syntactic features of English in contrast to features of other languages.
(Note: Doctoral students in Speech and Hearing may enroll in ENGL 5320, 5321, 5322 and 5323 for doctoral credit as ENGL 6320, 6321, 6322 and 6323, provided they complete additional requirements appropriate to the doctoral level of study.)

5324 Studies in 16th Century Literature 3:3:0
Poetry, prose and drama of the age. May be taken for credit more than once if the topic varies.

5326 Development of American Renaissance 18201860 3:3:0
Major Authors of the period from Poe to Melville.

5327 Development of American Realism 18601900 3:3:0
Major authors of the period from Whitman to Norris.

5328 Early American Literature 3:3:0
Significant writers from the beginning of Colonial America to 1828.

5329 Modern American Literature 3:3:0
Major American writers of the 20th century.

5330 Special Topics in Old and Middle English Languages and Literature 3:3:0
Intensive study of the languages necessary for reading literature of the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5333 Studies in a Particular Author 3:3:0
Major writer such as Chaucer, Milton, Hawthorne, Faulkner. May be taken for credit more than once when the topic varies.

5334 Critical Studies in Literature 3:3:0
A particular genre or theme in comparative literature or criticism. May be taken more than once for credit when the topic varies.

5336 Directed Studies 3:3:0
Study in American literature in an area of mutual interest. May be taken for credit more than once if topic varies.

5340 Shakespeare 3:3:0
Selected major plays. May be taken for credit more than once if the topic varies.

5345 Writing Seminar
Intensive study in writing, focusing on specific topics, with either a technical or creative emphasis. May be taken more than once for credit if the topic varies.
Prerequisite: Graduate standing.

5350 Special Topics in Renaissance and Seventeenth Century English Literature 3:3:0
An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5351 Studies in 17th Century Literature 3:3:0
Poetry, prose and drama of the period 16001660. May be taken for credit more than once if the topic varies.

5355 Editing Technical Communications
Editing technical communications for clarity, conciseness, and form. Emphasis on affective communications within and between organizations and organizational levels including reports, proposals, manuals, memoranda, and news releases.
Prerequisite: Either ENGL 2301, 3310, 4326, or 4345 (when technically oriented) or permission of the instructor.

5360 Special Topics in Restoration and Eighteenth Century English Literature 3:3:0
An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5361 Documentation Design 3:3:0
A technical writing course that focuses on preparing, writing and documenting instructional information.

5365 Internship 3:3:0
Opportunity to work in 'real world' work setting in activities related to professional communication and technical writing.
Prerequisites: At least two courses from ENGL 2301, 3310, 4355.

5370 Special Topics in Nineteenth Century English Literature 3:3:0
An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing

5380 Special Topics in Twentieth Century Literature 3:3:0
An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5381 Studies in 18th Century Literature 3:3:0
Poetry, prose and drama of the period 16601800. May be taken for credit more than once if the topic varies.

5385 Special Topics in American Literature 3:3:0
An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing.

5390-5391 Thesis 3:A:0
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

5392 Studies in Romantic Literature 3:3:0
Poetry, prose and drama of the Romantic period. May be taken for credit more than once if the topic varies.

Department of Earth and Space Sciences

The Department of Earth and Space Sciences offers the following graduate courses to be used primarily as a support to other advanced degree programs.

Graduate Faculty

Professor James W. Westgate
Vertebrate paleontology, paleoecology, environmental studies

Assistant Professor Joseph M. Kruger
Geophysics, Remote Sensing, GIS

Geology Courses (GEOL)

5101 Institute in Earth Science **1:1:0**
Summer, inservice, or other institutes for earth science teachers. Credit varies with duration.
The description of the area of study of each institute will appear on the printed schedule. May be repeated for credit when nature of institute differs sufficiently from those taken previously.

5301 Institute in Earth Science **3:3:0**
Summer, inservice, or other institutes for earth science teachers. Credit varies with duration.
The descriptiou of the area of study of each institute will appear on the printed schedule. May be repeated for credit when nature of institute differs sufficiently from those taken previously.

5320 Environmental Geology **3:3:0**
The geological aspects of the environment. The environmental significance of man's use of natural resources. Field and laboratory studies of the local environment. Field trip required. Term paper based on laboratory, library, or field studies.

Department of History

It is the purpose of the Department of History to impart a knowledge and understanding of the past to the students enrolled in the University. This objective is based upon the belief that such knowledge and understanding improves the quality of life for individuals and contributes to the welfare of our society. The Department seeks to accomplish this objective through a program of continued study and research by its members and students. Research interests of the Department focus on both American and European history.

Admission Requirements

Applicants for the Master of Arts in History must meet all Graduate College entrance requirements. Their background in history must include two semesters of American History, two semesters of world or western civilization, one advanced course in each area and a course in historical research and writing. Students may be admitted and begin taking graduate courses while completing these requirements.

Degree Requirements

I. THESIS-OPTION. The thesis option is strongly recommended for those who plan to continue graduate study beyond the masters. The thesis program requires completion of 24 semester hours of class-work; a minimum of 12 hours must be taken in Seminar, Readings or Directed Readings courses. The student may take 6 graduate hours (class or seminar) in a supporting (minor) field. Six additional hours credit will be given for completion of the thesis.

Thesis students must also demonstrate a reading knowledge of one classical or modern foreign language. This requirement may be satisfied by completing the

2312 course in a language, OR by passing a nationally recognized standardized language proficiency test, OR by completing a reading project administered by the faculty of the Department of History.

II. NON-THESIS OPTION. The non-thesis option is intended to provide a strong foundation in a wide range of historical areas and periods. It is designed for those who do not intend to seek a higher degree. Non-thesis students must complete 36 hours in history. A minimum of 18 hours must be in Seminar, Readings, or Directed Readings courses. The student may take six hours in an approved minor field. After completing their classwork, students must take a comprehensive examination which may be oral, written, or a combination of both. A foreign language is not required for the non-thesis Master of Arts in History.

Graduate Faculty

Professor Adrian N. Anderson
Texas, American Revolution, Modern Mexico

Assistant Professor Rebecca A. Boone
Renaissance, Reformation, Early Modern Europe

Professor John M. Carroll
20th Century U.S., Diplomatic, Military, Sports

Assistant Professor Jeffrey P. Forret
Antebellum South, slavery, race relations

Professor Howell H. Gwin, Jr.
Ancient, Classical, Medieval Europe

Assistant Professor Mary L. Kelley
Modern U.S., Texas and Southwestern, Modern Britain/Europe

Professor John W. Storey
Religion in America, U.S. Intellectual History

Associate Professor Lee Thompson
Modern Europe, Britain and British Empire, Anglo-American Relations

Professor Ralph A. Wooster
American South, American Civil War, World War II

History Courses (HIST)

5320 Readings in American History 3:3:0
Course may be repeated when topic varies.
Prerequisite: Graduate standing.

5340 Readings in European History Since 1815 3:3:0
Course may be repeated when the topic varies.
Prerequisite: Graduate standing.

5370 Seminar in United States History 3:3:0
Course may be repeated when the topic varies.
Prerequisite: Graduate standing.

5311 Seminar in European History 3:3:0
Course may be repeated when the topic varies.
Prerequisite: Graduate standing.

***5308 Directed Readings in History** 3:A:0
Directed readings to be arranged by student in consultation with faculty member in area of mutual interest. Course may be applied to 5000 level course requirement for a **maximum** of **6** hours in the thesis program and **9** hours in the non-thesis option.

5390-5391 Thesis 3:A:0
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

*New number 5308 pending approval.

Department of Mathematics

The Department of Mathematics offers a program of study leading to the Master of Science degree in Mathematics. It is designed to train students either for a professionally oriented career in industry or in government, for further graduate work in mathematics or to provide depth and breadth in Mathematics Education.

Opportunities in the areas listed above, for students with a Master of Science in Mathematics, are numerous. Such opportunities exist in all areas of applied mathematics including computer science, statistics, operations research, numerical analysis, mathematical physics, administration/management science, engineering, secondary and elementary school teaching. These supporting areas are just a sample of excellent job opportunities for the graduate.

The department spends considerable time advising students in the Master's program. Once a student is admitted, the student's advisor will individually tailor the student's program to meet the needs of the supporting areas mentioned above or other areas of interest to the student. Consequently, students with a Bachelor's degree in Mathematics, Computer Science, Engineering, any of the sciences or Secondary Education will find appropriate opportunities in this M.S. program. Students will find a wide variety of courses listed in the program to make the above supporting areas available to them.

Those seeking admission to this program must satisfy the requirements as indicated below:

Admission to the Program

In order to be admitted to the Graduate Degree Program, a student must

1. Meet the general requirements as set forth in this catalog for admission to the College of Graduate Studies.
2. Meet the standards of a minimum GPA of 2.5 in the last sixty hours of undergraduate work and a minimum GRE score of V350, Q600.
3. Successfully complete no fewer than 27 semester hours of undergraduate mathematics including courses equivalent or comparable to the following: abstract algebra, analysis, differential equations, linear algebra and statistics, 12 hours of which must be at the junior and/or senior level.

Final approval as to what course work is acceptable toward admission to the graduate degree program lies with the graduate advisor and the department head. A student may be admitted conditionally to the graduate degree program, but is required to remove any deficiencies in undergraduate mathematics.

Admission to Candidacy

In order to be admitted to candidacy a student must

1. Successfully complete 12 semester hours of approved graduate work in mathematics.
2. Remove all deficiencies in mathematics designated by the Graduate Advisor and the Department Chair.
3. Satisfy the general Admission to Candidacy requirements as set forth in this catalog.

Completion of the Program

In order to complete the M.S. program a student must

1. Take the Advanced Mathematics section of the Graduate Record Examination and have the score reported to the Graduate Advisor.
2. Complete one of the two following programs:
   a. Complete at least 24 hours of graduate course work, write a thesis acceptable to the student's graduate committee, and satisfactorily defend the thesis orally before the graduate committee.
   b. Complete at least 36 hours of graduate course work and satisfactorily complete an examination over the course work before the student's graduate committee.
3. Include at least three courses from among the following:

MATH	5310	Theory of Functions of Real Variables
MATH	5320	Modern Algebra
MATH	5340	Topology
MATH	5312	Complex Variables **or** 5350 Complex Variables

Graduate Faculty

Associate Professor Valentin V. Andreev
Complex Analysis
Professor Paul Chiou
Statistics, Reliability Theory
Associate Professor and Chair Charles Coppin
Analysis, Modeling and Simulation
Associate Professor Bobby Dale Daniel
Topology and Graphs Theory
Assistant Professor Jennifer Daniel
Algebra
Associate Professor Mohsen Maesumi
Numerical Analysis, Applied Mathematics
Associate Professor W. Ted Mahavier
Numerical Differential Equations
Professor Alec L. Matheson
Spaces of Analytic Functions, Functional Analysis

Mathematics Courses (MATH)

5301 Foundations and Logic for Teachers 3:3:0
Introduction to logic, review of set operations, relations and functions, proof techniques.
Prerequisite: Graduate standing.

5302 Higher Geometry for Teachers 3:3:0
An axiomatic and set-theoretic treatments of geometry and coordinate geometry.
Prerequisite: MATH 2414 or its equivalent.

5303 Modeling Theory 3:3:0
Study of techniques of building and applying mathematical models, applications in biology, ecology, economics and sociology.
Prerequisite: Graduate standing and Mathematics 3401.

5304 Functional Analysis 3:3:0
Study of linear topological spaces, convexity, Hilbert spaces, Banach spaces, applications.
Prerequisite: Graduate standing and Mathematics 3380.

5306 Advanced Problem Solving for Teachers 3:3:0
Study of the role of problem solving techniques in solution and posing of problems and the role of technology in problem solving, mathematical modeling.
Prerequisite: MATH 2414 or its equivalent.

5307 Linear Algebra and Higher Algebra for Teachers 3:3:0
Vectors, matrices, determinants and their applications, introduction to groups and rings.
Prerequisite: MATH 2414 or its equivalent.

5308 Fourier Analysis 3:3:0
Expansion of functions in Fourier series, orthogonal sets of functions, orthonormality, Fourier integrals, approximations.
Prerequisite: MATH 3401.

5309 Advanced Calculus and Analysis for Teachers 3:3:0
Intensive review of theory of sequences and series, study of differentiation and the Riemann integral.
Prerequisite: MATH 2414 or its equivalent.

5310 Theory of Functions of Real Variables 3:3:0
Analytical functions, pathological functions, set functions, Riemann integral, measure theory, Lebesgue integral, Riemann-Stieltjes and Lebesgue-Stieltjes integral.
Prerequisite: Graduate standing and Mathematics 3380.

5311 Numerical Analysis 3:3:0
Solutions of ordinary and partial differential equations, approximation of functions, quadrature, and splines.
Prerequisite: Graduate standing, Mathematics 4315 or its equivalent, and some knowledge of computer programming.

5312 Complex Variables 3:3:0
Conformal mapping and analytic continuation, calculus of residues, and applications.
Prerequisite: Graduate standing and Mathematics 4310 or its equivalent.

5315 Numerical Analysis 3:3:0
Algorithms for solving linear and non-linear equations and systems thereof. Interpolating polynomials, finite difference approximations of derivatives, techniques of numerical integration. One-step and multi-step methods for solving ordinary differential equations and systems thereof.
Prerequisite: MATH 2415 and COSC 1373, or its equivalent.

5316 Linear Programming 3:3:0
Linear programming, unconstrained and constrained optimization, Lagrange multipliers, Newton's method, steepest descent, convex programming.
Prerequisite: MATH 2414 and MATH 2318 or MATH 3401.

5320 Modern Algebra 3:3:0
Groups, rings and the theory of fields. The theory of fields includes the study of subfields, prime fields, algebraic fields extensions and Galois fields.
Prerequisite: Graduate standing and Mathematics 3350 or its equivalent.

5330 Linear Algebra II 3:3:0
Vector-spaces, linear transformations; matrices, determinants, Eigenvalues, Eigenvectors, canonical forms, bi-linear mappings and quadratic forms.
Prerequisite: MATH 2414 and MATH 2318.

5331 Special Topics 3:3:0
Advanced topics in mathematics to suit the needs of individual students. Course may be repeated for a maximum of six semester hours credit when the topic varies.
Prerequisite: Graduate standing and consent of instructor.

5335 Topics in Mathematics 3:3:0
Topics include mathematical logic, group theory, field theory, approximation and interpolation, game theory and calculus of variations.
Prerequisite: Graduate standing and consent of instructor.

5340 Topology 3:3:0
Topological spaces, metric spaces, compact spaces, embedding, Urysohn's lemma and homotopy.
Prerequisite: Graduate standing and Mathematics 3380.

5350 Complex Variables 3:3:0
Complex numbers, analytic functions, complex line integrals, Cauchy integral formula and applications.
Prerequisite: MATH 2415.

5360 Computational Modern Algebra 3:3:0
Introduction to algebraic structures such as rings, integral domains, fields, and polynomials. Emphasis on finite structures with applications to computing.
Prerequisite: MATH 3350 or its equivalent.

5370 Methods of Applied Mathematics **3:3:0**
The Dirichlet problem, solution of boundary value problems, the Bergman Kernel function, method of the minimum integral, applications of conformal mapping.
Prerequisite: Graduate standing and Mathematics 4310 or 5350.

5380 Statistical Inference **3:3:0**
Theories of point estimation, interval estimation and hypothesis testing, regression analysis, analysis of variance.
Prerequisite: MATH 3370 or its equivalent.

5390-5391 Thesis **6:A:0**
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

The following 5000 level engineering courses are also applicable to the Master of Science degree in Mathematics when approved by the departmental graduate advisor.

ENGR 5303 Regression Analysis
ENGR 5305 Reliability
ENGR 5319 Design of Experiments

Department of Nursing

The Department of Nursing offers two graduate tracks leading to the Master of Science in Nursing degree and one dual track in nursing and business. The graduate nursing program is fully accredited by the National League for Nursing Accrediting Commission. Persons seeking admission may pursue the degree on a full or part-time basis. General requirements for catalog must be met. Substitution of the Miller Analogies Test (MAT) for the Graduate Record Examination (GRE) score provides a choice for prospective students.

Nursing Administration Track

The Nursing Administration track prepares registered nurses for advanced roles as Nurse Administrators. Primary focus is placed on advanced knowledge central to organization, management, leadership, health care policy and economics. Research and theory are used to explore issues related to administration. Nursing Administration courses and business support courses in financial accounting, economics, and marketing prepare leaders for a rapidly changing health care environment.

Nursing Education Track

The Nursing Education track provides registered nurses with the theoretical knowledge and skills necessary to become educators in academic settings. Particular focus is placed on teachinglearning strategies and theories, curriculum development, measurement and evaluation, and role development as an educator. Practicum experiences provide the student with expert teacher mentors in the nursing education environment.

Dual Master of Science in Nursing/Master of Business Administration (MSN/MBA)

This degree provides the nurse executive with leadership skills for complex healthcare organizations. Advanced knowledge from nursing administration, business, finance, and the managerial arena prepares a well-rounded nurse leader.

Admission Requirements

The student seeking a MSN degree must fulfill the following admission requirements:*

1. Bachelor of Science in Nursing degree from a nationally accredited undergraduate program.
2. Overall GPA of 3.0 or higher for all undergraduate and graduate coursework.
3. Acceptable scores on either the Graduate Record Exainination (GRE) or the Miller Analogies Test (MAT) taken within the last five years.
4. Current licensure as a Registered Nurse in the State of Texas.
5. Completion of a college statistics course within the last five years with a grade of "C" or better.

**For alternate admission criteria contact the Director of Graduate Nursing Studies at (409) 880-7720.*

Degree Requirements

1. Meet all graduate degree requirements.
2. Complete 37 semester hours of graduate work as specified by the department.
3. Successfully pass a comprehensive examination.
4. Meet the specific requirements listed in the College of Arts and Sciences, Department of Nursing section of this catalog.

Core Courses (MSNC)

MSNC 5310 Theoretical Foundations
MSNC 5311 Nursing Research
MSNC 5312 Healthcare Policy & Finance
MSNC 5315 Advanced Nursing Issues
MSNC 5195 Evidencebased Project I
MSNC 5296 Evidencebased Project II

Nursing Administration Courses (MSNA)

MSNA 5320 Role Development for Nurse Administrators
MSNA 5321 Planning & Organizing Healthcare Delivery
MSNA 5221 Practicum in Administration I
MSNA 5331 Directing and Controlling Healthcare Delivery
MSNA 5232 Practicum in Administration II

Required Courses in the College of Business for Nursing Administration

ACCT 5300 Financial Accounting
ECON 5300 Foundations of Economics
MKTG 5300 Marketing Concepts

Nursing Education Courses (MSNE)

MSNE 5330 Advanced Clinical Concepts
MSNE 5350 Learning Theory and Teaching Strategies
MSNE 5351 Curriculum Design
MSNE 5352 Measurement and Evaluation
MSNE 5353 Role Development for Nurse Educators
MSNE 5254 Nurse Educator Practicum I
MSNE 5255 Nurse Educator Practicum II
MSNE 5370 Special Topics or Required Elective

Academic Standards

1. A written comprehensive examination and Evidence-Based Project are required.*
2. Alternate admission criteria may be used for admittance by using a formula method that considers both the undergraduate GPA and MAT score Yand approval of the graduate faculty.*

**See the Graduate Nursing Studies Student Handbookfor specific policies. Handbook available from the Graduate Nursing Studies Office, P. 0. Box 10081, Beaumont, Texas 77710, (409) 880- 7720.*

Graduate Faculty

Associate Professor and Director Nancy Blume
Professor and Chair Eileen Deges Curl
Assistant Professor Jennie Godkin
Assistant Professor Iva Hall
Assistant Professor Barbara May
Professor and Dean Brenda Nichols
Assistant Professor Dianna Rivers
Assistant Professor Sheila Smith
Assistant Professor Faith Wallace

Nursing Core Courses (MSNC)

5195 Evidence-based Project I 1:A:0
Develop a proposal, using research methods, to investigate a problem.
Prerequisites: MSNC 5311, 5312, 5315, and Pre or Corequisites: MSNA 5221 or MSNE 5254.

5296 Evidencebased Project II 2:A:0
Implement project proposal and disseminate outcomes.
Prerequisite: MSNC 5195

5310 Theoretical Foundations 3:3:0
Examine theoretical foundations guiding advanced nursing practice.
Prerequisite: Permission

5311 Nursing Research 3:3:0
Analyze research methods, focusing on formulating a practice—related research problem, searching the literature, research design, sampling, and evaluation of research instruments, data collection strategies and analysis of data. Students are expected to analyze and critique research literature for scientific merit, and to discuss the practical application of scientific findings for practice.
Pre or corequisite: MSNC 5310

5312 Healthcare Policy and Finance 3:3:0
Utilize theoretical models to analyze healthcare policy and finance, and political processes and strategies, which influence the policy process and results in improved healthcare for a diverse society.
Prerequisite: Permission

5315 Advanced Nursing Issues 3:3:0
Analyze professional and social issues related to advanced nursing practice within the context of health promotion and disease prevention, and various social issues related to healthcare.
Prerequisite: Permission

Nursing Administration Courses (MSNA)

5320 Role Development for Nurse Administrators 3:3:0
Develop knowledge and skills relevant to leadership in healthcare organizations. Emphasis is on role of the nurse as a nurse administrator.
Pre or corequisite: MSNC 5310

5321 Planning & Organizing Healthcare Delivery 3:3:0
Use midlevel change and systems theory as the foundation for planning and organizing healthcare delivery. Emphasis is placed on analysis of the mission, philosophy, strategic planning and organizational structures.
Prerequisite: MSNA 5320

5221 Practicum in Administration I 2:0:6
Apply midlevel change and systems theory for planning and organizing healthcare delivery through a preceptored experience.
Pre or corequisite: MSNA 5321

5331 Directing & Controlling Healthcare Delivery 3:3:0
Use quality improvement models as the foundation for directing and controlling healthcare delivery. Emphasis is placed on the analysis of human resources and budgeting processes.
Pre or corequisite: MSNA 5221

5232 Practicum in Administration II 2:0:6
Apply quality improvement models to work with human resources in a healthcare organization through a preceptored experience. Pre or corequisite: MSNA 5331

5318 Dimensions of Healthcare Systems and Administration 3:3:0
Multiple healthcare systems are overviewed within the context of a healthcare leadership environment.
Course limited to Business majors in Healthcare Administration

Nursing Education Courses (MSNE)

5350 Learning Theory and Teaching Strategies 3:3:0
Examine learning theories and teaching strategies foundational to classroom and clinical instruction in academic settings.
Pre or corequisite: MSNC 5310

5351 Curriculum Design 3:3:0
Analyze curriculum components for contemporary nursing education in academic settings. Evaluation as a critical component of curriculum design is examined.
Pre or corequisite: MSNC 5310

5352 Measurement and Evaluation 3:3:0
Develop knowledge and skills in measurement and evaluation of classroom and clinical instruction.
Pre or corequisites: MSNC 5311, MSNE 5353

5353 Role Development for Nurse Educators 3:3:0
Develop knowledge and skills relevant to teaching in institutions of higher education. Emphasis is on the role of the nurse as a faculty member.
Pre or corequisites: MSNC 5310, MSNE 5350, MSNE 5351

5330 Advanced Clinical Concepts 3:3:0
Develop skills to analyze and synthesize clinical concepts relevant to areas of advanced nursing practice.
Pre or corequisites: MSNE 5311

5254 Nurse Educator Practicum I 2:0:6
Apply teaching/learning theory and strategies to didactic and clinical preceptored instruction. Evaluate selected curriculum components related to teaching experiences.
Pre or corequisite: MSNE 5353

5255 Nurse Educator Practicum II 2:0:6
Apply measurement and evaluation concepts to didactic and clinical preceptored instruction. Examine course, level, and department components within the context of an academic system.
Prerequisite: MSNE 5254

5370 Special Topics 3:3:0
Elective related to advanced nursing practice topics.

Department of Political Science

The Department of Political Science offers a program of study leading to the Master of Public Administration degree. It is designed to prepare students for administrative positions in local, state, and federal agencies. Persons seeking admission must meet the general requirements for admission as outlined in the graduate catalog and must meet the institutional GRE and GPA standard according to the formula (GPA X 200) + (GRE V + Q) ≥ 1350.

Degree Requirements

The degree of Master of Public Administration requires the completion of 36 semester hours of graduate work: 15 in the core curriculum (POLS 5350, 5351, 5352, 5353, and 5354) and 21 from an approved list of elective courses offered by the Political Science Department and other Lamar University graduate programs. An internship (POLS 5358) with local agencies is also available. Students will complete the following courses if they have not taken them, or their equivalents, as undergraduates: introduction to public administration (three semester hours); urban politics (three semester hours); and statistics for social scientists (three semester hours). Students must pass both written and oral comprehensive final examinations.

Departmental instruction is energized and informed by faculty involvement in current research, scholarly publication, and professional activities at political science and social science organization meetings. Department faculty serve the larger local community by participating in civic organizations, commissions, and task forces, and offering professional expertise as consultants and advisers to local governmental and nongovernmental organizations.

Graduate Faculty

Assistant Professor Dominic M. Beggan
Public administration
Assistant Professor Terri Davis
Judicial process, administrative law
Assistant Professor Thomas E. Sowers
Envirorunental policy, research methods
Associate Professor James L. True
Public policy, fiscal administration
Professor Glenn H. Utter
Political philosophy, public administration ethics
Professor James M. Vanderleeuw
Public policy, urban politics

Political Science Courses (POLS)

5320 Directed Reading 3:3:0
Graduate students may study individually with an instructor in an area of mutual interest to the student and the instructor.
Prerequisite: Graduate standing and approval of Chair, Department of Political Science.

5350 Administrative Theory 3:3:0
An examination of major theories dealing with organizations and their characteristics, scope and effect on public administration and executive behavior. Emphasis will be placed on the relationships between theories and supporting empirical research.
Prerequisite: Graduate standing.

5351 Human Resource Management 3:3:0
Personnel theory and practice in the public setting. The basic methods and functions of personnel administration in the context of public organizations, employee motivation, employee relations and collective bargaining will be emphasized.
Prerequisite: Graduate standing.

5352 Fiscal Administration 3:3:0
The study of formulation and administration of federal, state, and local government budgeting, including the role of the budget in the policy process, approaches to budget formulation and analysis, and other basic concepts and practices in government budget and finance administration.
Prerequisite: Graduate standing.

5353 Public Policy Formulation 3:3:0
The process of policy-making within governmental agencies and within the total political process. Emphasis will be placed on decision-making, public policy analysis and policy implementation.
Prerequisite: Graduate standing.

5354 Special Studies in Public Administration 3:3:0
Analysis of selected problems in public administration: urban and regional planning and management, administrative reorganization, the environment and related problems. Course may be repeated as topics vary.
Prerequisite: Graduate standing.

5358 Internship 3:A:0
Practical administrative experience in a local, state, regional or federal office or agency that is the equivalent of one-half time for one semester, full-time in a summer semester. Examinations and reports on practices and problems in agencies are required. This course may be waived for students already employed in an administrative capacity in a government agency if they elect three additional hours from the approved program courses.
Prerequisite: Graduate standing.

Department of Psychology

The Department of Psychology offers a program of study leading to the Master of Science degree in applied psychology. It is designed to prepare professional personnel for employment in business, industry or community mental health. Students may elect to take their primary coursework in industrial/organizational psychology or in community/counseling psychology. Those seeking admission to this program must meet the general requirements as set forth in the catalog for admission to the College of Graduate Studies and must offer the substantial equivalent of a bachelor's degree in psychology (24 semester hours) including courses in statistics and research methods. The department has flexible admission criteria which will allow the faculty to review applicants individually. However, students with GRE scores less than 1000 (V + Q) are not usually accepted. International students must present a minimum TOEFL score of 600. All students must also have a 2.5/4.0 undergraduate grade point average overall or 2.75/4.0 on the last 60 hours of undergraduate course work. Post Baccalaureate students are not permitted to enroll in psychology graduate courses without special permission from the department chair.

Degree Requirements

The candidate for the Master of Science degree in Psychology must meet all of the College of Graduate Studies general degree requirements. Additional specific degree requirements are as follows:

1. Forty-two semester hours of course work in psychology which must include 23 semester hours in Psychology 5300, 5301, 5311, 5302, 5320, 5323, 5350 and two semester hours in Psychology 5120. For the Community Psychology Program, an additional 9 semester hours in Psychology 5310, 5312 and 5313 is required. In the Industrial Psychology Program, an additional 6 semester hours is required in Psychology 5321 and 5322.
2. Candidacy examinations devised by the Psychology Department graduate faculty. A student may petition to be administered the candidacy (qualifying) examination during the semester in which the appropriate course work listed in No.1 above is to be completed provided the student is in good academic standing. Dates to sit for

the examination will be announced each year. A student must have satisfactorily passed candidacy examinations prior to enrolling in Psychology 5330, 5390, 5310 or 5313.

3. One to three additional semester hours of 5000 level courses in an approved field of study.
4. Practicum: Six semester hours in Psychology 5330 and 5331 for I/O students; three semester hours in Psychology 5330 for community students.
5. Thesis: Submission of an acceptable thesis and satisfactory performance on a final oral examination with a minimum of six semester hours in Psychology 5390 and 5391.

Departmental Policies

Special attention is called to the following departmental policies:

1. Graduate students are prohibited from providing psychological services except when supervised by a faculty member as part of a course requirement or when regularly employed by a licensed psychologist, an exempt agency as defined by the *Psychologist's Licensing Act or a departmental approved nonexempt agency.* Students in training are expected to be aware of and abide by the *Psychologist's Licensing Act and the Ethical Principles of Psychologists.* A violation of this policy will result in the student's dismissal from the program.
2. More than six hours of "C" level work will result in the student's dismissal from the program.
3. Students may not enroll in the same course more than twice.
4. Qualifying and/or final examinations may be repeated once if failure occurs. In general, a student repeating any portion of the examinations must do so at the next administration of the examination.
5. After admission to candidacy, a student must be enrolled in a thesis course each regular semester until requirements for the degree are completed. In addition a student must be registered for a thesis course each session of the summer term if the student is to receive the degree in August or is involved in research or writing.

Under unusual circumstances and with the approval of the department chair and the student's supervising professor, a student may postpone registration for the thesis course for one or more semesters. Unless special permission has been granted, a student who is not continuously enrolled in a thesis course must repeat the candidacy examinations and apply for re-admission to candidacy.

Graduate Faculty

Professor James K. Esser
Social, industrial-organizational psychology

Associate Professor Oney D. Fitzpatrick
Developmental psychology, health psychology, medical compliance

Associate Professor Joanne S. Lindoerfer
Clinical psychology, community psychology

Assistant Professor Judith R. Mann
School psychology, psychological measurement, developmental psychology, community psychology

Assistant Professor Martha A. Rinker
Sensation/perception, behavioral neuroscience, methodology

Assistant Professor Jeremy A. Shelton
Social psychology, industrial organizational psychology, social cognition, consumer behavior

Psychology Courses (PSYC)

5120 Professional Orientation **1:1:0**
An orientation to the discipline and professional activities. Includes ethics, legalities, training standards, and professional roles. Assignments supplement other course work including research, teaching and field projects. Required of all graduate students for two semesters with a maximum of three semester hours allowed.
Prerequisite: Consent of instructor.

5140 Special Topics **1:A:0**
Course work, library and/or laboratory work, and conferences with faculty member. A description of the particular area of study will be indicated. May be repeated for credit when topic varies.
Prerequisite: Consent of instructor.

5300 Advanced General Psychology I **3:3:0**
A comprehensive overview of the history of psychology, systems of psychological thought, and the areas of behavioral neuroscience, sensation and perception, learning, motivation, and cognition. Emphasis will be placed on both background material and current research. May be taken out of sequence.
Prerequisite: Consent of instructor.

5301 Advanced General Psychology II **3:3:0**
A comprehensive overview of the following areas of psychology: personality, developmental, social and abnormal. Emphasis will be placed on both background material and current research. In addition, the influence of lifestyle on health and wellness and the role of the professional psychologist in the process is considered. May be taken out of sequence.
Prerequisite: Consent of instructor.

5302 Experimental Design **3:3:0**
A study of the researcb procedures and statistical techniques commonly used by the applied and theoretical psychologist in the design, execution, control and evaluation of experiments.
Prerequisite: Consent of instructor.

5303 Individual Study **3:A:0**
Independent study of special topics or problems in industrial/organizational or community psychology. May be repeated for credit.
Prerequisite: Consent of instructor.

5340 Special Topics in Psychology **3:A:0**
Includes coursework, library and/or laboratory work and conferences with a faculty member. A description of the particular area of study will be indicated. A student may repeat the course for credit when the area of study varies.
Prerequisite: Consent of instructor.

5350 Multivariate Research Techniques **3:3:0**
Topics include multiple regression, factor analysis and the relationship of multiple regression to analysis of variance and covariance. The linear algebra necessary to deal with these topics is developed. Extensive practice with microcomputers is emphasized.
Prerequisite: Psy 5302 or consent of instructor.

5310 Introduction to Psychological Assessment **3:3:0**
An introduction to intellectual assessment. Includes principles of psychological testing, test statistics, and critical evaluation of a variety of intellectual and achievement measures. Practicum in administration, scoring, interpretation, and formal psychological report writing for all Wechsler measures and the Stanford-Binet.
Prerequisite: Admission to candidacy and Psy 5320.

5311 Community Psychology: Introduction to Psychotherapy **3:3:0**
Specific psychotherapy skills, therapeutic communication and therapeutic practices are introduced using didactic techniques and role-playing. Includes models of individual, family and multimodal therapy, ethical principles in therapy, DSM-IV and diagnosis of psychopathology, Employee Assistance Programs, consultation and referral to other agencies. Other topics include professional orientation of the therapist, obtaining supervision and continuing education, and evaluating the effectiveness of therapy.
Prerequisite: Consent of instructor.

5312 Advanced Psychological Assessment **3:3:0**
An introduction to the broad area of personality assessment including DSM-IV classifications. Practicum in administration, scoring, interpretation, and formal psychological report writing with the MMPI-2, Rorschach, TAT, SCII, KOIS, and other objective and projective assessment devices. Includes coverage of lifestyles and career/vocational choices.
Prerequisite: Psy 5310.

5313 Community Psychology: Advanced Psychotherapy 3:3:0
An in-depth study of psychotherapy theories and intervention strategies for individuals and groups. Distinctions will be made between normal human growth and abnormal human behavior. Includes ethics, legal/cultural considerations, and lifestyles.
Prerequisite: Psy 5311 and admission to candidacy.

5320 Theory and Techniques of Psychological Measurement 3:3:0
A study of procedures used in the development, evaluation, and application of psychological measuring instruments. Topics include bivariate linear correlation, nonlinear correlation, multiple and partial correlation, classical true score theory, validation techniques, and test construction techniques.
Prerequisite: Consent of instructor.

5321 Advanced Industrial Psychology I 3:3:0
Social and organizational factors in the work place. Emphasis on theories of organizational/group dynamics, social foundations of influence, leadership and growth/development.
Prerequisite: Consent of instructor.

5322 Advanced Industrial Psychology II 3:3:0
Psychological principles and techniques applied to human resources management. Techniques include job analysis, personnel selection, placement and training, performance appraisal, compensation and career development.
Prerequisite: Psy 5320 or consent of instructor.

5323 Advanced Experimental Psychology 3:3:0
Theory and application of experimental design in psychological research. Students will have an opportunity to design and conduct an original research study.
Prerequisite: Psy 5302 or consent of instructor.

5330 Practicum I 3:A:0
Supervised training and experience in a local, state or regional agency, institution or employment setting. The specific nature of the practicum depends on the professional background and goals of the candidate and will be determined by the candidate, his/her faculty advisor and a member of the cooperating agency/organization. For Community Psychology students, practicum involves a minimum of 300 hours of work in a mental health setting, including a minimum of 100 hours of direct client contact, and one hour a week of individual supervision from a licensed professional.

5331 Practicum II 3:A:0
Supervised work in an area of interest to the student, Includes supervision by both a faculty member and a member of the cooperating agency/organization.
Prerequisite: Psy 5330.

5390-5391 Thesis 3:A:0
Prerequisite: Admission to candidacy. Must complete both for required 6 credits.

Department of Sociology, Social Work and Criminal Justice

The Master of Science degree in Applied Criminology is designed to prepare students for upper level staff, administrative, management, treatment and planning positions in criminal/juvenile justice agencies. The 36semester hour program has an applied focus, teaching practical skills as well as theoretical knowledge.

Admission Requirements

1. A bachelor's degree from a regionally accredited college or university in criminal justice, criminology, sociology, or the equivalent. Students with undergraduate degrees in other fields but with substantial work experience in criminal/juvenile justice may be admitted with special approval. Those without substantial work experience and with undergraduate degrees in other fields may be admitted after taking specified undergraduate courses.
2. Undergraduate grade point average (GPA) and Graduate Record Examination (GRE) scores according to the formula [GPA X 200] + [GRE V+Q] ≥ 1350.

3. Proficiency in the use of personal computers, including word processing, spreadsheets, databases and Internet search engines.
4. Satisfactory completion of at least one statistics course and one social science research course.

Applicants who do not meet all admission requirements may enter as Pre Graduate, pending full admission. Under Pre Graduate status, the student must make up all deficiencies and earn at least a "B" average. No more than six hours of graduate credit may be earned prior to full admission.

Degree Requirements

Core Courses 12 hours

CRIJ 5310 Criminal Justice System and Policy

CRIJ 5320 Theoretical Foundations of Crime Control

CRIJ 5330 Planning and Evaluation

CRIJ 5340 Special Studies in Applied Criminology (this course may be repeated for credit as an elective when the area of study varies)

Elective Courses 12 hours

Four courses chosen from different CRIJ 5340 topics and/or approved graduate courses in business, counseling, education, political science, public administration, psychology, or other fields related to the student's needs and interests.

Professional Projects 12 hours

CRIJ 5601 Applied Project in Criminology I (6 hours)

CRIJ 5602 Applied Project in Criminology II (6 hours)

Graduate Faculty

Professor J. R. Altemose
Conflict management, correctional counseling, c.j. system

Assistant Professor Jennifer Frisbie
Theory, juvenile delinquency, computer applications

Assistant Professor Michael Jordan
Administration, policy, international

Assistant Professor Dawn McCarty
Family violence, restorative justice, Community crime prevention

Professor Stuart Wright
Drug policies, terrorism, hate crimes, militias

Criminal Justice Courses (CRIJ)

5310 Criminal Justice System and Policy **3:3:0**
A critical review and analysis of the role of governmental and nongovernmental organizations in the prevention, control and punishment of crime and delinquency. An emphasis is placed on policy analysis and recommendations for change.

5320 Theoretical Foundations of Crime Control **3:3:0**
A comprehensive overview of various theoretical approaches to the understanding of crime and delinquency, including selected biological, psychological, sociological, legal and/or political theories.

5330 Planning and Evaluation **3:3:0**
An indepth examination of information-gathering and analysis; planning and evaluation. Emphasis on the analytical tools useful in criminal justice agencies.
Prerequisite: an undergraduate course in research methods, an undergraduate course in statistics, and competence in the use of personal computers.

5340 Special Studies in Applied Criminology **3:3:0**
Includes an analysis of contemporary issues in the understanding, prevention, and control of crime and delinquency both domestically and globally. A student may repeat the course for credit as an elective when the area of study varies.

5601 Applied Project in Criminology I 6 hours **6:A:0**
A major practical project integrating the student's course work, previous experience and professional goals. May take the form of a supervised internship, applied research or professional project.
Prerequisite: Approval of graduate advisor

5602 Applied Project in Criminology II 6 hours **6:A:0**
A second major practical project.
Prerequisite: Approval of graduate advisor and CRIJ 5601

College of Business

Lamar University's MBA is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB). Students with degrees in **non-business** fields as well as business undergraduates ***are encouraged*** to earn the Master of Business Administration degree through Lamar University's Cohort MBA or Traditional MBA.

Mission Statement

The mission of the Lamar MBA is to deliver a dynamic integrated management education to a variety of student groups. Our students range from those who are exploring their career goals, through students who want to advance their existing business knowledge, and to students who have a focused career path. These different student needs are met through either the flexible part-time or the full-time Lamar MBA.

The Lamar MBA places a heavy emphasis on an experiential-based approach to problem solving including the knowledge, skill and ability to incorporate ethical considerations, leadership, teamwork, and a global perspective into the decision-making process. Lamar University blends its students' MBA education with passionate teaching, active learning, specialized knowledge and professional development to enhance their career potential.

Traditional MBA

Students with undergraduate degrees in business and those from non-business disciplines are equally encouraged to apply for a Lamar MBA. The MBA is a highly respected vehicle for enriching undergraduate study in science and engineering, liberal arts, and the social and behavioral sciences as well as for adding depth to the traditional undergraduate business disciplines.

For students without any previous undergraduate study in business, the Lamar MBA consists of 54 semester hours (21 courses). The program consists of nine leveling courses, a required core of eight courses and four elective courses that will allow a student to develop a concentration. **One or more of the nine leveling courses may be waived if the student has completed equivalent undergraduate coursework or can demonstrate proficiency in the area covered by the leveling course.**

The nine leveling courses may be completed after admission to graduate study or before admission when registering as post baccalaureate student. Undergraduate students are limited to six semester hours of graduate work in their last twelve hours of coursework.

Students entering the Lamar MBA with undergraduate degrees in business from an accredited business school will likely have satisfied the graduate leveling work and all of the nine leveling courses may be waived. The MBA will then consist of 36 semester hours (12 courses), including eight core courses and four elective (concentration) courses.

Cohort MBA

The Cohort MBA degree in the College of Business at Lamar University is an alternate pathway for full-time MBA students with undergraduate business degrees. In addition to the core curriculum, the "cohort" of students will have the opportunity to participate in various experiential learning activities. Students coming directly from an undergraduate business program should enroll in the experiential business and entrepreneurship

concentration, although students may choose any of the concentrations offered by the Lamar MBA.

The Cohort MBA is a 36 credit-hour program that features a full-time evening core curriculum that students complete in 16 months. Each "cohort" of students starts the program in August and graduates 16 months later. Students follow a lock step progression through the program, taking all core classes together as available on Monday, Tuesday, Wednesday and Thursday of every week (No Friday classes). The Cohort MBA will only be offered for students beginning in each fall semester. When entering the Lamar MBA, students must declare their interest in either the Traditional or Cohort MBA.

Dual Degrees offered:

1. Master of Science in Nursing/Master of Business Administration
2. BSIE/MBA Industrial Engineering undergraduates are eligible to participate in a 5-year academic program that leads to two degrees: a BSIE and MBA
   Industrial Engineering students will complete all of the normal INEN degree requirements, with one exception:
   INEN Electives are replaced with MBA Leveling courses.
   The program is designed to be completed in 5 years, with a general structure as follows:
   - Years 1, 2, and 3 are spent in pre-engineering and Industrial Engineering coursework.
   - Years 4 and 5 are spent taking MBA Courses.

Certificate

Leadership Certificate Program (Students must have bachelor's degree)
Students may select 12 hours from the following list:

BUSI 5320 Leadership and Organizational Change (Spring)
MGMT 5330 Human Resource Management (Summer II)
BUSI 5310 Entrepreneurship and Career Strategy (Fall)
MKTG 5340 International Marketing (Fall)
BULW 5340 Business Ethics (Spring)
MGMT 5380 Strategic Management (Fall and Spring)
MGMT 5350 Service Marketing and Management (Spring)
MGMT 5340 Seminar in Management (Fall)

Certification courses will apply to a full degree once you gain full admission to the MBA program. In addition, students entering the MBA program who do not have an undergraduate degree in business administration may be required to take leveling courses before entering the MBA program.

Admission

Persons seeking admission to this program must meet the general requirements for admission outlined in the Graduate Bulletin, with the following exceptions:

1. The student is *required* to take the Graduate Management Admission Test, GMAT.
2. The applicant's undergraduate grade point average and GMAT scores must equal or exceed the minimum standards. The student must meet at least one of the following standards:
   A. A total of at least 950 points based on the formula: 200 times the overall undergraduate GPA (4.0 system) plus the GMAT score. (See Note below)

B. A total of at least 1,000 points based on the formula: 200 times the GPA (4.0 system) of the last 60 hours of undergraduate work plus the GMAT score. (See Note below).

Note: Students must make a minimum score of 450 on the GMAT for unconditional acceptance, and meet standard "A" or "B" above. Students who make 400-450 and meet either standard "A" or "B" above will be admitted conditionally pending satisfactory completion of nine hours with a "B" (3.0) average on graduate work. A student who makes less than 400 on the GMAT will **not** be admitted regardless of GPA.

3. All applicants are required to complete two essay questions.
4. A student whose native language is not English is expected to score over 525 on the TOEFL.
5. Post Baccalaureate students are not permitted to enroll in Business courses for graduate credit without the *prior* consent of the Associate Dean.
6. All applications will be reviewed on the basis of the profile material required and submitted for admission consideration. Each required document contributes to the overall profile of the candidate for admission. Qualified applicants for graduate study must provide evidence of good standing at the college or university from which they earned their undergraduate degree. No single application element will be either an automatic qualifier or disqualifier for admittance.

Degree Requirements

First Year Courses (Designed primarily for students whose undergraduate degree is *not* Business).

ACCT	5200	Financial Accounting Foundations
BCOM	5200	Administrative Communications
BUAL	5200	Statistical Analysis for Decision Making
BULW	5200	Legal Environment of Business
ECON	5200	Foundations of Economics
FINC	5200	Foundations of Finance
MGMT	5210	Foundations of Organization Behavior
MGMT	5220	Operations Management
MKTG	5200	Marketing Concepts

Second Year Courses

ACCT	5370	Managerial Accounting
BUAL	5380	Business Research and Quantitative Analysis
ECON	5370	Managerial Economics
ECON	5380	Environment of Business
FINC	5310	Financial Management
MKTG	5310	Seminar in Marketing
MGMT	5340	Seminar in Management
MGMT	5380	Strategic Management

Concentrations

Accounting

This concentration provides students the opportunity to study the accounting function from a management point of view. Students will be able to understand the role of accounting in managing a business and in financial planning and decision making. **(Requires a Bachelor's degree in Accounting)**

Experiential Business and Entrepreneurship

This concentration has been developed for the Lamar University MBA Cohort Program. The cohort (team) model allows students to develop close working relationships with each other and develops team skills. By participating in various experiential learning experiences, this concentration prepares students on hands-on application of practical business skills to use in the workforce. Students will have a greater perspective of business and will enter the workforce with a stronger foundation in career strategy and leadership. Finally, this concentration prepares students for the intricacies of planning, launching and leading a new business. Students will have experiential learning experiences such as mentoring, career strategy workshops, distinguished speaker series, leadership development, study abroad, and FastTrac®. **(Available to all MBA students)**

Financial Management

The Financial Management specialization provides the student with advanced skills in corporate finance and investments. Students study how to select different instruments for investments, financing business activities, and managing financial risk. **(Available to all MBA students)**

Healthcare Administration

This concentration prepares Lamar University MBA students for managerial positions in health care delivery organizations, from integrated health systems to the various components (e.g. insurers/ risk takers, hospitals, physicians, sub-acute and long-term care, pharmaceuticals). Students will be able to analyze and undertake courses of action to improve organizational performance using financial, operational, and strategic perspectives and frameworks learned in their coursework. **(Available to all MBA students; Healthcare classes are scheduled on Saturdays)**

Management Information Systems

This concentration prepares Lamar University MBA students on how information systems impact the performance of, and add value to organizations; and analyze and design computer-based information systems based on a thorough comprehension of business and technology theory and practice. **(Available to all MBA students)**

Service Management and Marketing

This concentration prepares Lamar University MBA students for careers in which they will establish customer relationships, build loyalty and increase profits through effective service delivery. This will include the unique challenges involved in marketing and managing services. Students will consider the sources of competitive advantage in service businesses such as managing supply and demand, relationship management, customer satisfaction and loyalty, and the overlap in marketing/operations/human resource systems. **(Available to all MBA students)**

Thematic

For students who seek a tailored approach to their degree, the MBA program at Lamar University offers a thematic concentration. The thematic concentration allows students to choose their elective courses from a list of elective courses offered in the MBA program. To develop a thematic concentration, students develop a plan of study, including courses to be taken and then submit them to the Director of the MBA program for approval.

Thesis

Students may choose a thesis route through the MBA program at Lamar University. MBA students may elect to complete a thesis of at least 6 credit hours total under the guidance of a Thesis Committee. The student is responsible for compliance with all Graduate College rules and procedures, with respect to formation of a thesis Committee and completion of a thesis. **(Available to all MBA students)**

Graduate Faculty

Associate Professor Kakoli Bandyopadyay
Management Information Systems
Professor Soumava Bandyopadhyay
Marketing
Professor Cynthia Barnes
Office Administration
Professor Frank J. Cavalier
Business Law
Professor Jai-Young Choi
Economics
Professor Richard A. Drapeau
Business Statistics
Assistant Professor Katherine A. Fraccastoro
Marketing
Professor Lynn Godkin
Management
Professor Charles Hawkins
Economics
Assistant Professor George Kenyon
Management
Professor Howell Lynch, Jr.
Accounting
Professor Purnendu Mandal
Management Information Systems
Associate Professor Bradley Mayer
Management
Assistant Professor Lisa McNary
Management
Professor Carl B. Montano
Economics
Associate Professor Gisele Moss
Accounting
Professor Jimmy D. Moss
Finance
Professor Antoinette P. Mulvaney
Business Law
Professor Donald Price
Economics
Associate Professor Kabir C. Sen
Marketing
Assistant Professor James L. Slaydon
Finance
Assistant Professor Carol Sullivan
Accounting
Professor Marleen R. Swerdlow
Business Law
Assistant Professor Thomas H. Thompson
Finance
Associate Professor Celia B. Varick
Accounting
Professor Enrique R. Venta
Management

Business Courses

Accounting (ACCT) courses must be selected from the following list:

5200 Financial Accounting Foundations **2:2:0**
An introduction to financial accounting and reporting for graduate students who do not have a background in accounting. The course concentrates on conceptual financial accounting issues that users of accounting information need to understand. Students learn to access and analyze published financial reports. The course does not focus on computational and mechanical details.
Prerequisite: Graduate standing.

5330* Advanced Auditing **3:3:0**
Advanced study of the role of auditors as a profession. In depth discussion of professional ethics and liability to clients and other third parties. Study of audit failures, employing the case method. Also, the use of statistical sampling methods in auditing.
Prerequisite: Graduate standing and ACCT 4300.

5340* Tax Research **3:3:0**
An extensive examination of the methods employed to determine defensible solutions to problems in federal taxation. Emphasis is placed upon research methodology, proper documentation of research findings and effective communication of research findings to interested parties. The text is supplemented with outside readings and case studies. Significant oral and written reports are required.
Prerequisite: Graduate standing with a minimum of eighteen semester hours of accounting that include ACCT 3380 and ACCT 3390 or their equivalent and six semester hours of Intermediate.

5350 Entity Taxation (3) **3:3:0**
Theory and practice of the tax treatment of corporations, partnerships, LLC's, S corporations and estates and trusts.

5370 Managerial Accounting **3:3:0**
Application of accounting data in decision making: cost analysis as applied in the development of budgets and standards; accounting as a tool for cost control and pricing; case problems, using the micro-computer as a decision-making tool, which require students to interpret and discuss their analysis in the context of managerial decision-making.
Prerequisite: Graduate standing and ACCT 5200 or equivalent.

BCOM 5200 Administrative Communications **2:2:0**
Communication theory and practice with emphasis on variables affecting organizational communications. Intrapersonal, organization, and technological dimensions of communications. Specific areas include cultural and international differences in communication; one-to-one, small group and large group communications; formal and informal networks; electronic transmission; business letters and memoranda; and research papers and formal reports.
Prerequisite: Graduate standing.

BUAL 5200 Statistical Analysis for Decision Making **2:2:0**
Theory and applications of presenting and utilizing data for decision making in business situations. Topics include methods of gathering, presenting, and analyzing quantitative data; probability theory; estimation and tests of hypothesis; simple linear regression/ correlation analysis; classical time series; and other statistical procedures commonly used in business analysis.
Prerequisite: Graduate standing.

BUAL 5380 Business Research and Quantitative Analysis **3:3:0**
The course focuses on the applications of quantitative techniques to business problems. Topics include problem definition, research design, sampling theory, survey techniques, data collection methods and statistical models.
Prerequisite: Graduate standing and BUAL 5200 and approval of advisor.

**These classes are intended for MBA students pursuing the MBA degree with accounting emphasis.*

Business Law (BULW) courses must be selected from the following list:

5200 The Legal Environment of Business **2:2:0**
A survey of the legal environment of business including concepts of legal rules, the legal framework to resolve disputes, a study of the concept of property rights, contracts, commercial paper, agency and employment laws, government regulations of business through administrative agencies, and introduction to international law.
Prerequisite: Graduate standing.

5330 Employment Law **3:3:0**
Historical interpretations and present provisions of regulations governing labor. Common law; state and federal statues; Fair Labor Standards Act; Worker's Compensation; Social Security; liability; United State Department of Labor; social legislation; fair employment practices.

5340 Business Ethics 3:3:0
This course covers any right/wrong actions taken by corporations and covers areas such as business law (e.g. Sarbanes-Oxley), public policy (e.g. SEC guidelines), organizational ethics (e.g. corporate governance) and corporate social responsibility (e.g. obligations to community and stakeholders). Both descriptive and normative models of unethical and ethical decision making in business are analyzed to assist the student as a potential business person to make more informed ethical decisions. Additional reading and cases relevant to the accounting profession are also included.

5350 Estate Planning Fundamentals 3:3:0
A survey of the federal and state laws dealing with the estates of individuals, including living trusts, estate taxsaving trusts, charitable trusts, spendthrift trusts, providing for children, avoiding probate, minimizing estate taxes, second marriages, protecting businesses at death, gifts, wills, and living wills.
Prerequisite: Graduate standing.

5360 Environmental Law 3:3:0
This course covers environmental and health and safety laws that impact business. Attention is given to the economic rationale for government intervention to protect the environment. The course also examines recurring issues in environmental litigation and explores alternative methods of resolving environmental disputes.

5390 Special Topics in Business Law 3:3:0
Intensive investigation of topics in business law. Library and/or laboratory work and conferences with supervising faculty member. May be repeated when area of study differs.
Prerequisite: Graduate standing and approval of advisor.

Business Administration (BUSI) courses must be selected from the following list:

5310 Entrepreneurship and Career Strategy 3:3:0
In this course students will be involved in CareerLeader® and will be assigned a business executive as a mentor. Also students will be enrolled in FastTrac NewVenture® a module used to help aspiring entrepreneurs define and evaluate business concepts, providing a blueprint for identifying the next steps toward entrepreneurial success.

5320 Experiential Learning: Leadership and Organizational Change 3:3:0
This course uses Harvard Publishing Case in Point® to focus on the development of versatile leadership skills important in the effective management of change. Through role playing exercises, video tapes, diagnostic tools, seminar discussion, selected readings, and cases students will learn theory and build interpersonal skills necessary for providing leadership in diverse groups and organizations.

5360 Internship 3:3:0
Using an outside organization or one of the learning institutes within the College, the student must submit a paper with an analysis of their experiential learning, prepare an industry bibliography and write a paper summarizing the tasks and accomplishments encountered within the organization

5370 Business Case Writing 3:3:0
Write a case study with critical evaluation of an organization in action

5380 Global Enrichment 3:3:0
The global enrichment program allows students to increase their interest in other cultures, become less ethnocentric as they become aware of cultural differences, develop language skills within a cultural context and become more culturally sensitive and accepting. Students can make professional contacts, gain a sense of direction for their future career and gain a sense of responsibility in working on a project.

5390-5391 Thesis 3:3:0
Students must be continually enrolled in Thesis each Fall, Spring, and at least once in the Summer, until the thesis is completed.
Prerequisite: Approval of Associate Dean, College of Business. Must complete both for required 6 credits.

Economics (ECON) courses must be selected from the following list:

5200 Foundations of Economics 2:2:0
This is a fast-paced course which discusses both macro and micro economic theory and international economic issues. Macroeconomic topics covered include: inflation, unemployment, fiscal and monetary policy. Microeconomic topics include: demand theory, production and cost theory, price and output determination in markets, demand for and pricing of society's scarce resources.
Prerequisite: Graduate standing.

5370 Managerial Economics 3:3:0
A study in the depth of the principles and techniques of economic analysis applicable to the problems of business management.
Prerequisite: Graduate standing, ECON 5200.

5380 The Environment of Business 3:3:0
A study of business, government, and consumer interaction in the economy. Efficiency concepts for both the private and public sectors; government activities in antitrust, traditional regulation, and new wave regulation; issues in business ethics; and international topics are analyzed.
Prerequisite: Graduate standing, ECON 5200.

Finance (FINC) courses must be selected from the following list:

5200 Foundations of Finance 2:2:0
A survey of the financial management function in private business firms, with emphasis on major financial policy decision issues and the analytical techniques used to assist management in making those decisions.
Prerequisite: ACCT 5200, ECON 5200.

5310 Financial Management 3:3:0
A study of the financial policy of business firms along with the theory supporting that policy. Topics include capital budgeting, capital structure, cost of capital, dividend policy, and management of working capital, as well as the unique international dimensions of the financial policy of multinational firms.
Prerequisite: Graduate standing, FINC 5200 or equivalent.

5320 Seminar in Finance 3:3:0
Study of selected topics reflecting contemporary trends and problems in the field of Finance. The course may be repeated for a maximum of six semester hours when the topic varies.
Prerequisite: Graduate standing, FINC 5310 or consent of instructor.

5330 International Finance 3:3:0
Theory, practice and problems involving international commerce between nations.

5340 Investments 3:3:0
A study of investment alternatives, financial markets, securities, and methods of analysis.

5350 Cases in Corporate Finance 3:3:0
A study of business cases which focus on a variety of financial issues and solutions.

Management (MGMT) courses must be selected from the following list:

5210 Foundations of Organizational Behavior 2:2:0
A study of organizational behavior and management concepts. The course will examine the development of management thought, with special emphasis on motivation, leadership and organizational theories. Topics will include awareness of individual behavior, social interaction, the dynamics of group and intergroup behavior and the effects of the total system of behavior observed with the organization.
Prerequisite: Graduate standing, ECON 5200, ACCT 5200.

5220 Operations Management 2:2:0
This course examines the use of manufacturing and operations as competitive weapons. Production/Operations function and its relationship to marketing, finance, and accounting are described Global operations, forecasting demand, aggregate planning, inventory planning and control, and scheduling provide the basis for linking strategic plans to the production plan.
Prerequisite: Graduate standing, BUAL 5200.

5340 Seminar in Management 3:3:0
A course designed to give students an integrated approach to management through the application of theory to problem solving situations. Students perform in consulting roles applying management as both science and art. Emphasis is placed on national and international problems and a synergistic effect made to provide positive and applied solutions to actual managerial decisions making.
Prerequisite: Graduate standing, MGMT 5310.

5350 Strategic Cases in Services Marketing and Management 3:3:0
The course focuses on the unique challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content. The course is equally applicable to organizations whose core product is service (e.g., banks, transportation companies, hotels, hospitals, educational institutions, professional services, telecommunication, etc.) and to organizations that depend on service excellence for competitive advantage (e.g., high technology manufacturers, automotive, industrial products, etc.). Classroom sessions may consist of a mixture of short lectures, student discussions of material and assignments, case discussions, media presentations, active learning exercises, and guest speakers.

5360 Human Resource Management 3:3:0
Review of the basic elements of employed performance, with analysis of the factors involved in employment, placement and personnel planning. This course blends theory and practice so the student may better understand the policies and procedures required for recrnitment selection and personnel planning.

5380 Strategic Management 3:3:0
The capstone course for the MBA. The course assumes that the company success depends upon formulation of an astute "game plan" and the ability to implement and execute that game plan proficiently. The purpose of the class is to enable students to "think strategically," consider the total enterprise, and to make long—term decisions in a global market environment. A prerequisite for the Integrative Case Study.
Prerequisite: Must be in last semester of course work and have approval of advisor.

5390 Special Topics in Management 3:3:0
Investigation into special areas in management under the direction of a faculty member.
Prerequisite: Graduate Standing and approval of the instructor, department chair, and Associate Dean.

Management Information Systems (MISY) courses must be selected from the following list:

5330 Healthcare Information Systems 3:3:0
This course addresses issues in the development, integration, and management of health care information systems. Specifically, topics in patient care systems, health care delivery applications, advances in health informatics and telematics, and health information resources management will be discussed.

5340 Network Telecommunications 3:3:0
The course is designed to provide students with a conceptual foundation for the study of data communications and to expose students to leading edge distributed applications, products, or services that are being used in today's business and home environments. Both technical and managerial aspects of data communications and networks will be covered. After completion of this course, students should have an extensive knowledge of data communications technology and how it can be used to fulfill organizations' functional needs.

5350 Systems Analysis and Design 3:3:0
This course serves two audiences: (1) those who want to be an information systems analyst and (2) those who will be users or managers involved in systems development projects, an active member of a project team, or the client for a system request. Information systems concepts, systems analysis and design methodologies and techniques, and technologies used during the development of information systems will be covered. Students will be exposed to both classic methods (structured analysis and information engineering) and emerging methods (object-oriented analysis and rapid application development) of systems analysis and design. This course particularly focuses on the planning, analysis, and general design phases of the Systems Development Life Cycle.
Prerequisite: Graduate standing and approval of advisor

5360 Databases Management Systems 3:3:0
This course covers information systems design and implementation within a database management system environment. Students will learn to develop the detailed design and construction of a physical system using database software such as Oracle or MS SQL to implement the logical design of an information system.

5390 Current Topics in MIS 3:3:0
This course is designed to cover new technologies and current trends in the design, development and implementation of Information Systems in a business environment.

Marketing (MKTG) courses must be selected from the following list:

5200 Marketing Concepts 2:2:0
Marketing orientation and concepts; marketing programs of domestic and global perspectives in the formulation and development of strategies with regard to price, product, channels of distribution, and promotion of goods and services within an ever-changing environment.
Prerequisite: Graduate standing.

5310 Seminar in Marketing 3:3:0
An intensive study of specific marketing concepts and theories. Marketing strategies for the national and multinational firms are surveyed. Emphasis is placed on reading from current journals and other related publications.
Prerequisite: Graduate standing, MKTG 5200.

5340 International Marketing 3:3:0
Analysis and planning of marketing mix on an international scale. The course focuses on the aspects of international marketing such as the international market, the identification of global opportunities and threats, the formulation of international marketing strategy, and the organizations and control of global marketing.
Prerequisite: Graduate standing, MKTG 5200.

5350 E-Marketing 3:3:0
This course is a comprehensive review of marketing strategies that are enabled and enhanced by rapidly-evolving electronic and interactive media and communication methods. Analysis of current events and business cases involving online marketers is an integral part of the course.

College of Education and Human Development

The College of Education and Human Development offers graduate programs of study leading to the Doctor of Education degree in Educational Leadership and the Master of Education degree in eight different areas. The Master of Science degree in Kinesiology and in Family and Consumer Sciences are also offered.

Persons seeking admission to these programs must meet the general admission requirements of the College of Graduate Studies and of the individual department in which they plan to enroll. Admission to a degree program does not imply admission to candidacy for a degree.

Degrees Offered

Doctor of Education in Educational Leadership
Master of Education in Counseling and Development
Master of Education in Educational Administration
Master of Educational Technology Leadership
Master of Education in Elementary Education
Master of Education in Reading
Master of Education in Secondary Education
Master of Education in Special Education
Master of Education in Supervision
Master of Science in Kinesiology
Master of Science in Family and Consumer Sciences

Professional Certificates Available

Counselor
Educational Diagnostician
Generic Special Education
Principal
School Superintendent

General Information Concerning Professional Certificates

The Professional Certificate is now a five-year renewable certificate. It gives the holder legal authority to perform duties in the specialized areas designated on the face of the certificate. Information about requirements for a particular certificate can be obtained from the department offering the certification program. Once all requirements for a certificate are completed it is the responsibility of the student to go to the Office of Professional Services in the College of Education and Human Development and make application for the certificate to be awarded by the Texas Education Agency.

Department of Educational Leadership

Department Chair: Dr. Carolyn Crawford **204 Education Bldg.**
Program Advisors: **Phone: 880-8689**

Counseling and Development: Dr. Patti Buxton, Dr. Carolyn Crawford, Dr. William Holmes

Educational Administration: Dr. Janiece Buck, Dr. Elvis Arterbury

Supervision: Dr. Elvis Arterbury and Dr. Carolyn Crawford

Educational Technology: Dr. Desmond Rice

Doctoral Program: Dr. Sandra Harris, Dr. Jane Irons

The Department of Educational Leadership offers graduate programs leading to the Doctor of Education (Ed.D.) in Educational Leadership and the Master of Education (M.Ed.) degrees in Educational Administration, Supervision, Counseling and Development, and Educational Technology Leadership. For students already holding a master's degree and teacher certification, the Department offers course work leading to certification as a Superintendent, Principal, and School Counselor. A teaching certificate in Technology Applications is also available.

Course requirements for the state examination for Licensed Professional Counselor certification are also offered by this department.

Admission

Admission to a master's degree program or a post-master's "certificate only" program is required of all students taking courses in the Educational Leadership Department. A maximum of six semester hours may be taken prior to admission. Non-admitted students wishing to transfer courses from another department or another university must have permission of the department chair before registering.

Admission to a Masters' Degree Program

To be admitted to a program leading to a Master's degree in Educational Administration, Counseling and Development, Supervision, or Educational Technology Leadership students must fulfill the general requirements for admission to the Graduate College as stated elsewhere in this bulletin plus the departmental requirements. The Educational Leadership Department requires a minimum score of 400 on the Verbal and Quantitative sections of the Graduate Record Exam with a minimum combined Verbal and Quantitative score of 800. Students whose scores are below this standard but who meet the entrance requirements of the Graduate College will be considered on an individual basis and may be admitted by the Department. Test of English as a Foreign Language (TOEFL) is not accepted as a substitute for minimum scores on the Graduate Record Exam. If a student has applied for admission to a degree program and has not received notification of acceptance (or non-acceptance) within 30 days after application the student should check with the Graduate Admissions Office.

Admission to Candidacy for Master's Degree

After completing at least 12 semester hours of course work on the master's degree the student should apply for Admission to Degree Candidacy. Forms for admission to candidacy should be obtained from the Educational Leadership Department Office and

returned there upon completion. (NOTE: University regulations require the student be admitted to candidacy prior to beginning the last nine hours of course work). If a student does not have a letter certifying admission to candidacy within 30 days after making application the student should check with the department office.

Step by step procedure for admission to a Master's degree program

1. Apply for Admission to the Graduate College of Lamar University.
   A. Obtain application packet from the Graduate Admissions Office in Room 118 of the Wimberly Building or call (409) 880-8356.
   B. Complete the Graduate Record Examination and have scores sent to Graduate Admissions, Lamar University, P.O. Box 10078, Beaumont, TX 77710.
   C. Have all transcripts sent to Graduate Admissions as in B above.
2. Meet with program advisor to develop a degree plan. **NOTE:** No deviations from the degree plan will be permitted without prior written permission of advisor or department head.
3. In consultation with graduate advisor, select members of graduate committee. (The program advisor will chair this committee.)
4. Complete at least 12 hours of course work from their degree plan (at least six semester hours must be from courses in their major) and apply for Admission to Candidacy. **NOTE:** A Student must be admitted to candidacy **prior to beginning** the last nine hours of course work.
5. Complete remaining course work.
6. Complete requirements for graduation.
   A. Apply for graduation in the Graduate College office (219 Wimberly).
   B. Take and pass comprehensive examination during the last semester of attendance. To take the comprehensive examination a student must be in his/her last semester of coursework, have no incompletes ("I" grade) or unsatisfactory ("D" or "F" grades) on their transcripts and have met all other requirements for graduation.
7. Graduate.

   NOTE: Completion of some Master's programs also includes completion of all course requirements for an additional certification. Student desiring the additional certificate must apply to take the appropriate TExES Exam at the Office of Professional Services and Admissions. After successfully passing the exam, the student should apply at the Certification Office for the certificate.

Admission to a "Certification Only"

The Educational Leadership Department offers post master's certification programs leading to certification as a Superintendent, Principal, and School Counselor. Students who hold a master's degree and teacher certification and seek an additional certification offered by this department should apply to the Educational Leadership department for admission to the appropriate certification program. Those admitted to "Certification Only" are expected to have equivalent and recent coursework for substitutions to be made for required courses. Upon completion of the application and receipt of an official transcript, a program advisor will be assigned. The advisor will develop a certification plan for the student. After completion of the certification plan requirements the student must apply

for and pass the TExES examination and file for the certificate at the Certification Office. Students seeking a program leading to examination for certification as a Licensed Professional Counselor should follow the process designated above and then contact the State Board of Examiners for Professional Counselors in Austin, Texas to apply for licensure and take the licensure exam.

Master's Degree in Counseling and Development

The Master's Degree in Counseling and Development requires the successful completion of a comprehensive 45-semester-hour program of study. Students interested in pursuing a degree in Counseling and Development can secure an up-to-date degree plan from the Department of Educational Leadership, in the Education Building, by writing to the Department of Educational Leadership, P.O. Box 10034, Lamar University, Beaumont, Texas 77710, or by consulting the web page.

Certification In Counseling and Development

Professional School Counselor's Certificate

A student who completes requirements for a Master of Education degree in Counseling and Development will have fulfilled all curriculum requirements for a Professional School Counselor's Certificate.

Students already holding a Master's degree from an accredited university may enter the "Certification Only" program by making application in the office of the Department of Educational Leadership and providing an official transcript of all applicable graduate work. Once admitted, students will be assigned an advisor who will develop a certification plan for the student.

After completion of the certification plan the student must take and pass the TExES examination and apply for the certificate at the Office of Professional Services in the Education Building. Prerequisites for the certificate include Texas teacher certification and three years of acceptable classroom teaching experience. Approval to take the TExES is normally granted in the last semester of student's course work.

Licensed Professional Counselor (LPC)

The Texas State Board of Examiners of Professional Counselors regulates licensing requirements for counselors to render services in the state of Texas through private practice, group practice, institutions, organizations and similar types of arrangements. This Board requires a master's degree and 48 hours of coursework that is primarily counseling or counseling related coursework. Students who need additional information or wish to complete academic work toward licensure as a Licensed Professional Counselor (LPC) should see the Counseling and Development faculty in the Department of Educational Leadership or contact the Texas State Board of Examiners of Professional Counselors in Austin, Texas.

Master's Degree in Educational Administration

The Master's degree in Educational Administration requires successful completion of a 36 semester hour program of study. Certification as a Principal requires 36 hours of prescribed course work.

Doctor of Education in Educational Leadership (Ed.D.)

The Ed.D in Educational Leadership, with concentrations in Effective Schooling and Diversity and Multiculturalism, is designed for scholar/practitioners who desire to create positive lasting change in schools and organizations. The Ed.D. prepares educators for advanced professional responsibility, leadership and accountability for effective schooling in diverse school and learning communities. This includes creating a transforming school culture to accomplish lasting school reform; putting into practice standards-based curriculum and performance-based assessment to produce higher achievement for all students; and creating and utilizing research-based data to enhance decision making.

Degree Requirements

The Ed.D. requires the completion of 60 semester hours: 24 hours of core courses, 12 hours in research, 12 hours in dissertation, and 1 2 hours in the concentration(s) and electives. All coursework, including successful defense of the dissertation, must be completed within ten years.

Admission Considerations

Applicants should request an application packet and submit all necessary documents and transcripts by the end of January for admission to the next cohort, which begins in the fall semester of each academic year. Prospective students should contact the doctoral program office for a current application at 409-880-8676 or by emailing sandra.harris@lamar.edu.

The Doctoral Selection Committee considers all applicants and makes recommendations regarding acceptance. Entrance into the program is competitive. Interviews with candidates under consideration for admission are scheduled in the Spring semester. Applicants should submit the following information for admission consideration:

1) Evidence of a completed master's degree from an accredited university in an area related to the proposed studies, with a minimum grade point average of 3.5 on a 4.0 scale for courses applied toward a master's degree.
2) Undergraduate transcript with GPA
3) Graduate Record Examination scores
4) Commitment and demonstration of interest in education as a career and to the advancement of education through professional leadership. This is evidenced by the submission of an essay of approximately 500 words on the applicant's background, professional career goals, and reason for pursuing a doctoral degree.
5) Students should be currently or previously involved in and have educational leadership experience encompassing a number of settings, including schools, colleges and universities, health and human service agencies, and communitybased organizations.
6) Three (3) professional references

Principal Certification

A student who completes requirements for a Master of Education degree in Educational Administration will have fulfilled the hours required for a Principal certificate. The student's degree plan will include any additional courses required for certification.

Students already holding a Master's Degree from an accredited university may enter the "Certification Only" program for Principal Certification by making application in the Graduate College and office of the Department of Education Leadership and providing an official transcript of all applicable graduate work. Once admitted, students will be assigned an advisor who will develop a certification plan, which depending on age of coursework, will require a minimum of 21 hours with additional hours required as appropriate.

To receive the Principal certificate, a student must complete all course requirements, hold a valid Texas Teacher certificate, have two years of classroom teaching experience, take and pass the TExES examination, and apply for the certificate at the Office of Professional Services in the Education Building. Students normally register for the TExES in their last semester of course work.

Professional Superintendent Certificate

Prerequisites for the Professional Superintendent Certificate include a Master's degree and Professional Mid-Management Administrator or Principal certification. Students who meet these prerequisites and wish to seek certification as a school superintendent should apply to the Department of Educational Leadership. Admissions may be limited. Applicants are expected to meet the GPA and GRE requirements for admission to the Graduate School for graduate work. Upon completion of the application and receipt of an official transcript of graduate work an advisor will be assigned to develop a certification plan for the student. Students meeting the prerequisites can usually obtain certification as a superintendent by completing twelve semester hours plus a year-long internship of six hours. After completion of the certification plan the student must take and pass the TExES examination and apply for the certificate at the Office of Professional Services in the Education Building. Students normally register for the TExES in their last semester of course work.

Master's Degrees in Supervision and Educational Technology Leadership

Students interested in pursuing these master's degrees can secure an up-to-date degree plan from the Department of Educational Leadership in the Education Building or request a copy by writing to the Department of Educational Leadership, P.O. Box 10034, Lamar University, Beaumont, Texas 77710, or by consulting the web page.

Teaching Certification in Technology Applications

Twelve to fifteen hours are required for individuals already holding a teaching credential. Those holding a baccalaureate degree and desiring admissions should contact the department for advisement.

Graduate Faculty

Professor Elvis Arterbury
Educational Leadership
Associate Professor Janiece Buck
Educational Leadership
Associate Professor Patti Buxton
Counseling and Development
Associate Professor Carolyn Crawford
Counseling and Development
Associate Professor William R. Holmes
Counseling and Development
Professor Sandy Harris
Educational Leadership
Professor Jane Irons
Educational Leadership
Associate Professor Desmond Rice
Educational Technology
Professor Bob Thompson
Educational Leadership
Associate Professor Curtis E. Wills
Counseling and Development
Associate Professor Paula Nichols
Educational Technology

Counseling and Development Courses (CNDV)

5301 Human Growth and Development 3:3:0
A study of normal human development and the stages of physical intellectual, social and emotional growth from prenatal origins through old age.

5310 Individual and Group Facilitation Skills 3:3:0
An introduction of facilitation skills and theory. Indepth analysis and demonstration of various facilitation techniques for use with both individuals and groups. (This is a pre-practicum course.)
Prerequisite: CNDV 5311 or CNDV 5312 or permission of instructor.

5311 Individual Counseling Theories and Techniques 3:3:0
Theories of individual counseling with an emphasis on techniques and applications.

5312 Group Counseling Theories and Techniques 3:3:0
An analysis of group counseling theories, processes and techniques.
Prerequisite: CNDV 5311 or permission of instructor.

5320 Cross Cultural Counseling 3:3:0
Studies in human diversity and cultural issues. Identifies the implications for counseling and learning and strategies for cross cultural effectiveness in various settings.

5321 Test Administration and Interpretation 3:3:0
Theoretical and practical study emphasizing the administration, scoring and basic interpretation of individual psychological tests. Students will be trained to administer the Wechsler tests, the Stanford-Binet or other individual assessment instrnments.
Prerequisites: EDLD 5334, CNDV 5334, or permission of instructor.

5322 Professionalism, Ethics and the Law 3:3:0
An overview of the profession with an emphasis on legal issues, ethical priuciples and professional standards of conduct in the area of counseling.

5323 Career Development 3:3:0
A focus on theories of vocational choice, vocational assessment, sources of occupational and educational information and the career decision process.
Prerequisites: CNDV 5301 or permission of instructor.

5330 Developmental Guidance and Counseling 3:3:0
Designed to advance the professional competence of the counselor, the course is a study of the design and management of a comprehensive developmental guidance program. Emphasis is placed on the planning and implementation of a guidauce curriculum appropriate for the needs of school age children and youth.

5334 Measurement and Assessment 3:3:0
Provides an understanding of individual and group approaches to assessment and evaluation to include basic statistical concepts; standardized and nonstandardized testing; strategies for selecting, administering and interpreting assessment; and evaluation instruments in educational and counseling settings.

5350 Abnormal Human Behavior 3:3:0
A study of various symptom categories in psychopathology. The course will include an analysis of the diagnostic categories as well as the research concerning etiology and treatment.
Prerequisites: Approval of instructor and 18 semester hours of CNDV coursework.

5351 Consultation 3:3:0
This course has an emphasis on developing consultation skills for the counselor. Methods and techniques to assist the counselor in implementing appropriate consultation skills for problem management, intervention or prevention.
Prerequisite: EDLD 5301.

5380 Seminar in Counseling and Development 3:3:0
Designed to advance the professional competence of participants. For each seminar, a description of the particular area of study will be indicated. May be repeated for credit when nature of seminar differs sufficiently from one previously taken.
Prerequisites: CNDV 5311 or approval of instructor.

5381 Advanced Seminar in Social and Family Relations 3:3:0
An intensive exploration of the dynamics of interpersonal relationships, including family and social issues. A critical analysis of various techniques and approaches will be established. Development of personal counseling skills will be of major concern.
Prerequisites: CNDV 5322, CNDV 5311.

5382 Selected Instruction Topics 3:3:0
Significant topics in Counseling and Development. The description of the particular area of study will appear on the printed schedules of Lamar University each semester. With permission of advisor in student's major field, course may be repeated when topic varies.

5390/5391 School Counseling Practicum 3:3:0
A field-based course with supervised observation and practice of guidance and counseling in a school setting during the school day.
Prerequisite: Must be within 6 semester hours (excluding practicum) of completing program requirements before beginning internship. A maximum of one additional course may be taken any semester in which a student is enrolled in a practicum.

5392/5393 Community Counseling Practicum 3:3:0
A field-based course of supervised observation and practice of guidance and counseling in an agency setting.
Prerequisite: Must be within 6 semester hours (excluding practicum) of completing program requirements before beginning internship. A maximum of one additional course may be taken any semester in which a student is enrolled in a practicum.

Educational Leadership Courses (EDLD)

5301 Research 3:3:0
Introduction to skills and techniques necessary for inferential and descriptive research in education and counseling. Emphasis on planning, designing, and methodology leading to a research proposal.

5306 Concepts of Educational Technology 3:3:0
The course provides a functional knowledge of educational computing and technology on topics such as internet access, acceptable use policies, ethics, technology and the curriculum, multimedia overview and related topics. The course is a prerequisite to all other technology courses.

5311 Fundamentals of Leadership 3:3:0
A study of the relationships between and among human behavior, belief systems and administrative style.

5326 School-Community Relations 3:3:0
Developing personal and mass media communication skills with emphasis on improving school-community relationships through effective communication techniques.
Prerequisites: EDLD 5311, EDLD 5339 and admission to the program.

5333 Leadership for Accountability 3:3:0
A study of short and long-range planning and problem solving techniques of effective school leaders. Special emphasis will be given to applications in an individual campus and the relationship to district planning processes.

5334 Tests, Measurement, and Evaluation 3:3:0
Analysis and evaluation of types of tests and measurement devices will be conducted. Methods of determining the reliability and validity of tests are investigated. Designs for testing programs and selection of appropriate tests will be included. Evaluation systems of individuals and programs will be discussed.

5335 Curriculum Management 3:3:0
Models of curriculum development and evaluation with particular emphasis on the management of these functions.
Prerequisites: EDLD 5311, EDLD 5352 and admission to the program.

5339 Organizational and Management Issues 3:3:0
Study of school as an organization and how individuals behave in organizations. Students will assess and compare their own personal competencies to the administrative needs of a selected school. Management issues include: operations, resources, facilities, and safety.
Prerequisite: EDLD 5311

5342 School Finance 3:3:0
Analysis of principles of school finance to include problems of budgeting, accounting, and administration of funds.
Prerequisites: EDLD 5311, EDLD 5339 and admission to the program.

5343 Educational Facilities Planning 3:3:0
Evaluation and administration of school facilities and the relationship of facilities to the achievement of educational objectives.

5344 School Law 3:3:0
Interpretation and implementation of school law including a study of the Texas Education Code and the Handbook for Public School Law.
Prerequisites: EDLD 5311, EDLD 5339.

5345 Human Resource Development 3:3:0
Fundamentals of human relations and organizational behavior in developing programs of recruitment, selection, assignment, evaluation, promotion and termination of personnel. Prerequisites: EDLD 5311, EDLD 5339 and admission to the program.

5352 Instructional Leadership 3:3:0
Techniques of improving instruction through application of research on effective schools and models of instruction.

5354 Team Facilitation 3:3:0
Role of peers in school evaluation and improvement initiatives. Emphasis on team approaches, team leadership, and models to improve group processes.
Prerequisite: Advisor's appraval.

5356 Educator Evaluation 3:3:0
Study of techniques of effective educator evaluations with emphasis on appraisal as a component of professional development. All requirements for PDAS training are included as are requirements for other administrative assessments.
Prerequisites: EDLD 5352.

5361 Distance Learning/Telecommunications 3:3:0
Study of distance learning methodologies and the implementation and application of current and emerging telecommunications for teaching and learning.
Prerequisite: EDLD 5306. (approval pending)

5362 Informational Systems Management 3:3:0
Overview of information technology (IT) core concepts, management, and IT operations as they relate to information systems management (ISM). Research, review, and discussion of the interrelations between emerging technology, old technologies, the organization, and their IT management. Review of current trends in IT: networking, E-Business, intranets, extranets, firewalls, computing security, chip advancements, software engineering, and emerging technologies and organizational trends in ISM.
Prerequisite: EDLD 5306.

5363 Multimedia and Video Technology 3:3:0
Introduction to video design and production in the education area involving the use of hardware, software and conversion tools. Principles of multimedia design and production including the tools for presentation of instruction.
Prerequisite: EDLD 5306.

5364 Teaching with Technology 3:3:0
This course focuses on the design, development, and integration of educational technology for teaching, learning, and personal productivity, including access networks, intranets/internet.
Prerequisite: EDLD 5306.

5365 Web Mastering
Overview of the principles of web mastering that includes web design and roles and behaviors associated with the position of webmaster including design, copyright, legal issues, security, and maintenance of web sites.
Prerequisite: EDLD 5306.

5366 Digital Graphics and Desktop Publishing
This course provides an overview of computer generated graphics and animations along with the design and development of electronic documents and printbased page layout.
Prerequisite: EDLD 5306.

5367 Cognition and Instruction **3:3:0**
Overview of the study of cognition, learning theories, psychology of learning, and related research that is most significant for the learning and instruction processes. An introduction to the relationship and the impact of human cognition on the design of instruction, and the employment of current technologies to construct cognitive learning tools.

5368 Instructional Design **3:3:0**
Research and theory about instructional strategies and the process for developing and implementation of those strategies. An analysis of learning needs and goals and the development of a delivery system to meet those needs.

5369 Human Computer Interaction (HCI) **3:3:0**
Study of the computer interface design that considers human capabilities, possibilities, limitations, and psychoeducational implications of complex human-computer interactions. A course focused on research topics and applications in the HCI field and requiring an HCI research project.

5371 The School Superintendent **3:3:0**
Role and responsibilities of the superintendent as chief administrative officer of the district.
Prerequisite: Certification in Mid-Management and admission to the program.

5381 Independent Study **3:3:0**
Supervised investigation into special areas of education under the direction of a graduate faculty member. May be repeated for credit when topic of investigation varies.
Prerequisite: Consent of department chair.

5387 Seminar in School Administration **3:3:0**
Study of concepts and principles of school administration as applied to selected topics. Special attention will be given to new and developing programs and to administrators' roles in these programs.
Prerequisites: Permission of instructor/admission to program.

5388 Selected Instructional Topics **3-6:3:0**
Study of significant topics related to administration and supervision of schools. The description of the particular area of study will appear on the printed schedules of Lamar University each semester. Contact hours are the same as those required by a formal instructional course. With permission of advisor in the student's major field, course may be repeated when topic varies.
Prerequisites: Permission of advisor.

5395 Internship in Educational Technology Leadership **3:3:0**
Provides opportunities for hands-on, field based experience in applying technology leadership skills and knowledge. Provide structured opportunities in a supervised situation to complement and enhance academic preparation.

5396 Internship in Administration **3:3:0**
Designed to develop administrator proficiencies and skills specific to a job title under the joint supervision of a school administrator and faculty of Lamar University.

5397 Internship for Supervision **3:A:0**
Designed to give the prospective supervisor job-related experience under the joint supervision of a school district supervisor and faculty of Lamar University.
Prerequisite: Must have completed all courses in the major and be within 3 semester hours (excluding internship) of completing certification requirements.

5398 Internship for School Principal **3:3:0**
Designed to give the prospective principal or middle level administrator job-related experience under the joint supervision of a school administrator and faculty of Lamar University. Management issues include: operations resources, facilities, and safety. Study of the administrative proficiencies necessary in the organization and administration of an effective school. Should be the last course taken. May be repeated once for credit.
Prerequisites: Masters Degree in Educational Administration and within 3 semester hours (excluding internship) of completing mid-management certification.

5399 Internship for School Superintendent **6:A:0**
Designed to give the prospective superintendent job-related experience under the joint supervision of a school superintendent and faculty of Lamar University. Must be completed in consecutive semesters (Fall & Spring) in the same academic year.
Prerequisites: Certification in Mid-Management or Principal and within 6 semester hours (excluding internship) of completing superintendency certification. A maximum of one additional course may be token in any semester in which a student is enrolled in an internship.

Doctoral Courses (EDUD)

6301 Teaching and Learning Theory and Practice 3:3:0
Application of principles of learning to create a learner-centered, constructivist environment to support high academic achievement in multiculturally diverse populations.

6302 Leadership Theories, Ethics and Values 3:3:0
Foundations of educational philosophy, leadership theories, and the functions and ethics of leadership in application to building learning communities in schools.

6303* Cultural Influences on American Education 3:3:0
Social justice issues reflected in cultural and societal patterns affecting the American educational system examined through an analysis of American educational history, multicultural and critical pedagogy and contextualized in terms of equitable leadership for today.

6304 Accountability and Standards 3:3:0
The application of evaluation, accountability, and standards to improve the efficiency and effectiveness of the classroom, the campus, and the system.

6305 Creativity and Change 3:3:0
Exploration of the role of creativity and change in promoting continuous school improvement and in modifying educational practice to result in innovative outcomes.

6306 Dynamics of Leadership 3:3:0
The study of leadership theory as it applies to the school setting and extends into the community.

6307 Educational Policy 3:3:0
The theory and practice of policy making and the political influences brought to bear on policy issues in education.

6315 Directed Action-Research Field-Based Internship 1 3:3:0
The completion of an action research project that addresses an approved topic or school-based project.

6350 Applied Research 3:3:0
A review of research methods related to informed decision-making addressing school problems/issues. Application of these principles to a current school-based problem is required.

6351 Quantitative Research 3:3:0
Application and review of descriptive and inferential statistics, selection of research topics and hypothesis testing.

6352 Qualitative Research 3:3:0
Exploration of naturalistic observation, archival research, ethnographic studies, case studies, and surveys. A field study will be conducted for application.

6353* Synthesis Seminar 3:3:0
Completion of a student proficiency assessment comprised of a portfolio, synthesis paper and oral presentation. Successful completion is required to apply for candidacy. Note: Must be taken concurrently with Dissertation I - Proposal Writing

6360* Dissertation I -Proposal Writing 3:3:0
Dissertation II - Proposal Defense
Successful completion required for advancement to candidacy
Dissertation III
Dissertation IV
Prerequisite: Approval of Doctoral Director
Note: Students must maintain continuous enrollment from the time of advancement to candidacy and register for at least 3 credit hours each semester until successful dissertation defense, not to exceed 3 years of advancement to candidacy. Maximum number of dissertation credit hours is 12.

Concentration and Elective Courses

6311 * Adult Learners in the Learning Organization 3:3:0
Study of effective professional development standards and methods, adult learning models and the connections between staff development and student learning in PK - 16.

6312* Relationships for Leadership in a Multicultural Environment 3:3:0
Study of theoretical foundations of relationships, communication, and group behavior and dynamics applied to the learning centered culture and climate.

6313* **Seminar: Contemporary Issues** **3:3:0**
Examination of current trends, emerging issues, and research-based practices in education organized around broad themes to complement doctoral course requirements. May be repeated for credit when the topic varies.

6316* **Directed Action Research Field-Based Internship II** **3:3:0**
Completion of internship and action research project that engages in scholarship activities within an organizational setting to improve individual practice, the practice of an identified group, and/or the practices within the organization conducted under the guidance of a mentor.

6318* **Special Topic** **3:3:0**
Study of significant topics in educational leadership which complement doctoral course requirements. May be repeated for credit when the topic varies.

6319* **Independent Study** **3:3:0**
Supervised investigation into special areas of education under the direction of a graduate faculty member. May be repeated for credit when topic of investigation varies. Prerequisite: Consent of doctoral director.

6321* **Leading Educational Programs for Special Populations** **3:3:0**
Examination of the backgrounds and special needs of diverse learners and how background and special needs influence interaction with educational practices and learning environments.

6322* **Trends and Issues in Multicultural Education** **3:3:0**
Examination of current trends, emerging issues, and research-based practices in multicultural education. May be repeated for credit when the topic varies.

6323* **Psychological Frameworks for Education** **3:3:0**
Analysis of learner-centered framework for addressing social and emotional needs of today's diverse student population. Strategies for integrating unique needs within a psychological framework to design guidelines for appropriate curriculum and instruction are developed with an emphasis on resiliency and brain-based research.

6324 **Diversity and Learning Issues** **3-3-0**
Study of current knowledge and research related to diversity and of best practices in teaching in diverse classrooms and schools to develop environments for success.

**Pending approval by the Texas Higher Education Coordinating Board*

Department of Professional Pedagogy

Department Chair: Dr. Cristina Rios **202 Education Building**
Phone: 880-8217

Graduate Coordinator: Dr. Cristina Rios

The Department of Professional Pedagogy offers programs leading to the Master of Education (M.Ed.) degree in Elementary Education, Reading, Secondary Education, and Special Education. In addition, the Department offers course work leading to two different Professional Certificates. It is the goal of the Master of Education and the Professional Certificate programs to provide the academic climate and practical experience necessary to produce teachers and other specialists of superior competence in their chosen areas of specialization.

Students who wish to pursue a Master of Education and/or a Professional Certificate should contact the Graduate Coordinator well before the beginning of the semester in which they plan to enroll.

Master of Education (M.Ed.)

General Requirements

To be accepted into a program leading to a Master's Degree in Education the student must:

1. Fulfill the general requirements for admission and the general degree requirements as stated elsewhere in this bulletin.
2. Meet the undergraduate prerequisites appropriate to the chosen program of study. These requirements include:
   A. The applicant in elementary education must have completed 18 semester hours in education, including 6 semester hours in elementary education methods and materials courses.
   B. The applicant in secondary education must have completed a minimum of 18 semester hours in education. At least 12 of the 18 hours must be at the 3000 level or higher.
   C. The applicant in special education must have completed a minimum of 18 semester hours in education. At least 12 of the 18 hours must be at the 3000 level or higher.
3. The student may elect to write a thesis or an action research project. The student is required to complete a minimum of 30 hours plus the thesis or research project.
4. Students who complete a master's degree plan that does not require a thesis or research project must earn a minimum of 36 hours of graduate credit and are required to pass a written comprehensive examination administered during the last semester of attendance.

Step-by-Step Procedure

1. Apply for Admission to the Graduate College of Lamar University.
   A. Obtain application packet from the Graduate Admissions Office in Room 118 of the Wimberly Building or call (409) 880-8356.
   B. Take the Graduate Record Examination and have scores sent to: Graduate Admissions, Lamar University, P.O. Box 10078, Beaumont, Texas 77710.
   C. Have all transcripts sent to Graduate Admissions as in B above.
2. Meet with Graduate Coordinator to develop a degree plan. **NOTE:** No deviations from the degree plan will be permitted without written permission of the Graduate Coordinator.
3. In consultation with the Graduate Coordinator, select members of graduate committee. (The program advisor will chair this committee.)
4. Complete at least 12 hours of graduate-level course work in the department and apply for Admission to Candidacy. **NOTE:** Students must be admitted to candidacy before beginning their last nine hours of course work.
5. Complete remaining course work.
6. Complete requirements for graduation
   A. Apply for graduation in the Graduate College office (219 Wimberly).
   B. Defend thesis/research project.
7. Graduate

Degree Plan in Elementary Education

To meet individual needs, considerable flexibility is allowed in planning the student's program; however, the usual pattern of course work is as follows:

1. **Professional Core.** 18 semester hours are required:
   EDLD 5301 Research Methods
   PEDG 5320 Research/Current Issues in Education
   PEDG 5370 The Public School Curriculum
   PEDG 5334 Tests, Measurements, and Evaluation
   PEDG 5350 The Learning Process
   PEDG 5344 School Law
2. **Academic Support Courses.** 12 semester hours must be selected from the following courses:
   PEDG 5367 Diversity/Multi-Culturalism
   PEDG 5380 Modern Mathematics in the Elementary School
   PEDG 5360 Problems in Teaching Science and Social Studies in the Elementary School
   PEDG 5387 Teaching Reading in the Elementary School
   PEDG 5389 Diagnostic/Prescriptive Procedures in Reading
   PEDG 5356 The Gifted Learner
3. **Thesis or Research Project.** 6 semester hours are required:
   PEDG 53905391 Thesis or Research Project
   Both courses must be completed as a sixhour block. Enrollment contingent on approval of advisor. The research can be contentcentered (secondary or elementary levels) or primarily pedagogical in nature.

Degree Plan in Reading

1. To fulfill requirements concurrently for a Master's degree in Reading, the student:
   A. Must meet general requirements for a Master of Education degree.
   B. Must hold a valid Texas Provisional or Lifetime Certificate.
2. A. **Professional Core.** 18 semester hours are required:
   EDLD 5301 Research Methods
   PEDG 5320 Research/Current Issues in Education
   PEDG 5367 Diversity/MultiCulturalism
   PEDG 5334 Tests, Measurement, and Evaluation
   PEDG 5350 The Learning Process
   PEDG 5344 School Law
   B. **Academic Support Courses.** 18 semester hours are required:
   PEDG 5387 Teaching Reading in the Elementary School
   PEDG 5375 Content Area Reading
   PEDG 5385 Literature: Pre K 12
   PEDG 5353 Seminar in Language Arts
   PEDG 5389 Diagnostic/Prescriptive Procedures in Reading
   ENGL 5310 The Teaching of Writing and Research Techniques

Degree Plan in Secondary Education

To meet individual needs, considerable flexibility is allowed in developing the student's plan; however, the usual pattern of course work is as follows:

1. **Professional Core.** 18 semester hours are required:
   EDLD 5301 Research Methods
   PEDG 5320 Research/Current Issues in Education
   PEDG 5370 The Public School Curriculum
   PEDG 5334 Tests, Measurement, and Evaluation
   PEDG 5350 The Learning Process
   PEDG 5344 School Law
2. **Academic Content Discipline.** 12 semester hours of graduate work must be completed in one of the approved disciplines. A plan listing the specific courses required to be completed before recommendation for graduation is available through the Director of Professional Services. Specialization areas are available in the following disciplines:

Biology	Kinesiology
Chemistry	History
Earth Science	Mathematics
Physics	English
Speech	Political Science

3. **Thesis or Research Project.** 6 semester hours are required:
   PEDG 5390 5391 Thesis or Research Project
   Both courses must be completed as a sixhour block. Enrollment contingent on approval of advisor. The research can be contentcentered (secondary or elementary levels) or primarily pedagogical in nature.

Degree Plans in Special Education

To meet individual needs, some flexibility is allowed in planning the student's program; however, the usual pattern of course work is indicated below. If a student desires, he/she may complete requirements for a standard five-year renewable Certificate as an Educational Diagnostician. In addition, the student may complete requirements for a Certificate in Special Education-Generic as part of the degree plan. This degree, if the student is pursuing one of the described certifications, is planned as a 36 semester hour non-thesis program. A student not seeking a certificate within the degree hours may complete a degree with a minimum of 30 semester hours plus a thesis.

The student should secure information concerning requirements for certification from the Director of Professional Services. General information concerning Professional Certificates is presented in another portion of the College of Education and Human Development section of this bulletin.

A. **M.Ed. in Special Education Generic Certification**
   1. **Professional Development Area.** 9 semester hours are required:
      PEDG 5310 Research for Teachers (Req)
      PEDG 5320 Research/Current Issues in Education
      PEDG 5340 Normal Human Growth and Development
      PEDG 5350 The Learning Process
      PEDG 5370 Public School Curriculum

2. **Resource Area.** 12 semester hours are required:
   PEDG 5334 Tests, Measurement, and Evaluation (Req)
   PEDG 5361 Survey of Learning Potentials of Exceptional Children (Req)
   PEDG 5351 Advanced Study in Early Childhood Education
   PEDG 5388 Reading/Language Arts for the Exceptional Learner
3. **Specialization Area.** 15 semester hours are required:
   PEDG 5362 Psychoeducational Evaluation of Exceptional Children
   PEDG 5363 Practicum in Psychoeducational Procedures
   PEDG 5364 Behavior Modification and Contingency Management of Disabled Learners
   PEDG 5365 Instructional Processes with Exceptional Children
   PEDG 5366 Modification of Curriculum and Instruction for the Atypical Learner
   PEDG 5375 Content Area Reading

B. **M.Ed. in Special Education Educational Diagnostician Certification**
1. **Professional Development Area.** 9 semester hours are required:
   PEDG 5310 Research for Teachers (Req)
   PEDG 5340 Normal Human Growth and Development (Req)
   PEDG 5350 The Learning Process (Req)
2. **Resource Area.** 12 semester hours are required:
   PEDG 5334 Tests, Measurement, and Evaluation (Req)
   PEDG 5335 Individual Testing (Req)
   PEDG 5351 Advanced Study in Early Childhood Curriculum
   PEDG 5361 Survey of Learning Potentials of Exceptional Children
   PEDG 5388 Reading/Language Arts for the Exceptional Learner
   PEDG 5375 Content Area Reading
3. **Specialization Area.** 15 semester hours are required:
   PEDG 5362 Psychoeducational Evaluation of Exceptional Children
   PEDG 5363 Practicum in Psychoeducational Procedures
   PEDG 5364 Behavior Modification and Contingency Management of Disabled Learners
   PEDG 5365 Instructional Processes with Disabled Children
   PEDG 5366 Modification of Curriculum and Instruction for the Atypical Learner

General Information Concerning Professional Certificates

The Professional Certificate is a standard five-year renewable certificate, and gives the holder legal authority to perform duties in the public schools of Texas in the specialized areas designated on the face of the certificate. It is the responsibility of the student to initiate the process of applying for certification by contacting the College Director of Professional Services.

Graduate Faculty

Assistant Professor Nancy Carlson
Special Education
Associate Professor Vicky Farrow
Educational Psychology
Associate Professor Fara Goulas
Special Education
Associate Professor Kimberly Griffith
Special Education, Educational Psychology
Associate Professor Mohammad K. Hamza
Educational Psychology
Professor Andrea Karlin
Reading
Assistant Professor Sandra Richardson
Mathematics and Professional Pedagogy
Associate Professor Cristina Rios
Professional Pedagogy
Professor Dorothy Sisk
Gifted and Talented
Assistant Professor Mary E. Wilkinson
Mathematics and Professional Pedagogy

Professional Pedagogy Courses (PEDG)

5310 Research for Teachers 3:3:0
Introduction to skills and techniques necessary for descriptive research as applied to teacher education, with an emphasis on planning, designing and methodology. Research proposal required.

5311 Individual Study in Education 3:A:0
Supervised investigation into special areas of education under the direction of a graduate faculty member. May be repeated for credit when topic of investigation differs.
Prerequisite: Consent of department head.

5320 Research/Current Issues in Education 3:3:0
Implications of research findings for school practices. Current influences and trends affecting education.

5330 Effective Teaching 3:3:0
The course is designed for Post-Baccalaureate students to receive in depth study of elementary and secondary classroom practices.
Prerequisite: PEDG 5385, 5387

5334 Tests, Measurement and Evaluation 3:3:0
Analysis and evaluation types of tests and measurement devices will be conducted. Methods of determining the reliability and validity of tests are investigated. Designs for testing programs and selection of appropriate test will be included. Evaluation systems of individuals and programs will be discussed.

5340 Normal Human Growth and Development 3:3:0
A study of development and nature of the human personality. Emphasis on recent psychological and biological experiments.

5341 Microcomputers for Educators 3:3:0
Designed to give teachers an awareness level of computer literacy and allow them to use the computer as an additional tool in the classroom.

5345 Instruction Design and Assessment of Academic Achievement 3:3:0
The structure and organization of the curriculum, materials and methods used and types of evaluation in K-12 classrooms.
Prerequisite: PEDG 5330

5350 The Learning Process 3:3:0
History and systems of learning which have application to the classroom. Current theories and research in pedagogy.

5351 Advanced Study in Early Childhood Curriculum 3:3:0
A comprehensive study of the organization, methods and materials used for instruction in Kindergarten and other programs for young children.

5352 Creative Activities in Early Childhood Education 3:3:0
Teaching methods and materials for releasing creative expression with music, art and literature. Workshop approach with demonstration of art and music processes.

5355 Analysis of Program Implementation in Early Education 3:3:0
The inductive analysis and application of specific program and program implementation strategies to the development of cognitive, psychomotor and affective behaviors among young children.

5356 The Gifted Learner 3:3:0
In-depth study of the characteristics and unique needs of gifted/talented students as they relate to both school and family settings. Understanding of adaptations required for effective instruction of gifted learners.

5357 Creativity and the Gifted Learner 3:3:0
Introduction to theoretical constructs related to creative behavior. Emphasis on the development of competence in identifying the student's creative potential through the administration and interpretation of tests of creative behaviors and on strategies for enhancing the learner's creative behavior.

5358 Identification and Assessment of Gifted/Talented Students 3:3:0
Theoretical and practical study emphasizing the selection, administration, and interpretation of tests related to identification and curricular planning for gifted and talented students. Attention to state/federal identification mandates and the design of an identification matrix and guidelines for its use in specific educational settings.

5359 Gifted and Talented: Curriculum 3:3:0
Survey of models of gifted/talented education with attention to the development of appropriate goals and objectives for curriculum differentiation. Understanding of appropriate evaluation criteria at state/district/classroom levels.

5360 Practicum in Gifted Education 3:3:0
Supervised internship in gifted/talented education providing the intern with an opportunity to demonstrate competence in program planning and instructional delivery in classroom/district settings. May not be taken until all four courses (12 semester hours) are completed.

5360 Problems in Teaching Science and Social Studies in the Elementary School 3:3:0
A study of current developments, recent trends and innovative methods of teaching science and social studies in the elementary school, with emphasis upon individual teaching problems and research.

5361 Survey of Learning Potentials of Exceptional Children 3:3:0
General survey of the learning potentials of those children deficient in basic integrities which can be categorized into central peripheral nervous system dysfunction and/or behavioral disorder.

5362 Psychoeducational Evaluation of Exceptional Children 3:3:0
Simulated experiences in the use of formal and informal methods of appraising and communicating pupils' educational status and progress.

5363 Practicum in Psychoeducational Procedures 3:3:0
Practicum experience in the use of formal and informal instruments in the evaluation of the psychoeducational and social development of children and the utilization of education and clinical data in individual teaching plans. This is the capstone experience of the program. Candidates are expected to have all the prerequisites before taking the practicum.
Prerequisite: PEDG 5362; PEDG 5334 or a Test, Measurements & Evaluation Course and CDNV 5321 or an individualized intelligence testing course.

5364 Behavior Modification and Contingency Management of Disabled Learners 3:3:0
The description of specific types of learning, the sequence in learning school-related tasks and the competencies to manipulate events to effect desired learning.

5365 Instructional Processes with Exceptional Children 3:3:0
Competency in developing educational strategies for the remediation, amelioration or compensation of exceptionality as it interferes with achievement or adjustment in school.

5366 Modification of Curriculum and Instruction for the Atypical Learner 3:3:0
Information and familiarity with instructional materials necessary for meeting the special needs of exceptional learners. Utilization of Special Educational Instructional Materials Centers.

5367 Diversity/Multi-Culturalism 3:3:0
Studies of diverse learners in multi-cultural settings. Implications for strategies in instruction and support.

5370 The Public School Curriculum 3:3:0
Analysis of the objectives, organization and content of the different areas of the public school curriculum in grades K-12. Emphasis is given to models of curriculum development and to techniques for curriculum improvement.

5375 Content Area Reading 3:3:0
This course is designed to provide concepts and procedures incorporating reading instructional techniques effectively in the content areas. Emphasis on current teaching practices within the content area classroom.
Prerequisite: PEDG 5330

5380 Modern Mathematics in the Elementary School 3:3:0
Problems, research and innovative instruction in elementary mathematics.

5383 Internship **3:3:0**
A semester of teaching under the guidance of a university professor. The professor will provide mentoring and supervision during the semester.
Prerequisite: PEDG 5330, 5345, 5375, 5383

5385 Literature: Pre K-12 **3:3:0**
Emphasis on the selection of literature for children and adolescents, and the development of methods for using literature to develop skills in reading. Provision of experiences which will enable teachers to locate and select age level appropriate literature and to incorporate literacy studies in the curriculum at all grade levels.

5387 Teaching of Reading in the Elementary School **3:3:0**
Implications of current research for reading instruction in the elementary school.

5388, 5490 Selected Instructional Topics **3-4:3-4:0**
Significant topics in Elementary, Secondary, Special Education, Supervision, Counseling, and Educational Administration. The description of the particular area of study will appear on the printed schedules of Lamar University each semester. Contact hours must be the same as those required by a formal instructional course. With permission of advisor in the student's major field, course may be repeated when topic varies.

5389 Diagnostic/Prescriptive Procedures in Reading **3:3:0**
Study of the nature and causes of reading problems including observations, demonstrations, and supervised practice in the techniques of diagnosis; attention is given to interview procedures, standard and informal diagnostic instruments, the interpretation and utilization of standardized test data, and report writing.
Prerequisites: PEDG 5387, 5385, 5353

5390-5391 Thesis or Research Project **6:A:0**
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

Graduate Resource Courses

These courses are not offered by the College of Education and Human Development but are required or suggested for certain degree plans.

Department of Health and Kinesiology

Department Chair:

Charles Nix
Office: 103 Health and Human Performance Complex A
Phone: 409 880 2226
Email: nixcl@hal.lamar.edu

Graduate Coordinator:

Daniel Chilek
Office: 218 Health and Human Performance Complex A
Phone: 409 880 8090
Email: chilekdr@hal.lamar.edu

Graduate Faculty

Kinesiology

Dr. Douglas Boatwright
Dr. Charles Nix
Dr. Julio Morales
Dr. Daniel Chilek

Health

Dr. Joel Barton
Dr. Barbara Hernandez
Dr. George Strickland

The Department of Health and Kinesiology offers a program of study leading to the Master of Science degree in Kinesiology. The program is designed to enhance the professional competence of graduates in Health, Kinesiology, and related fields of study. Primary focus is placed upon advance knowledge in pedagogy, sport, exercise and wellness issues.

Admissions:

1. Candidates for admissions to the Master of Science in Kinesiology must meet all the admission requirements of the College of Graduate Studies as listed in this bulletin.
2. Candidates must also have a 2.5 or greater GPA on a 4.0 scale or a 2.75 GPA in the last 60 hours of their undergraduate degree program.
3. Candidates must satisfy the necessary undergraduate prerequisites as prescribed for a particular area of specialization.

Degree Requirements:

1. The candidates for the Master of Science degree in Kinesiology must meet all of the College of Graduate Studies general degree requirements as listed in this bulletin.
2. Nine semester hours (curriculum core) to include KINT 5340 (Scientific Basis of Exercise), KINT 5365 (Statistical Applications in Kinesiology) and 5360 (Research Methods)
3. Completion of degree option:
   a. Thesis – (30 hours) to include 24 hours of course work and a minimum of 6 hours of thesis.
   b. Non-Thesis – (36 hours) to include a minimum of 36 hours of course work.

Kinesiology Courses (KINT)

5300 Problems 3:A:0
Biological, physiological, social, psychological and other outcomes; selection and distribution of activities; facilities; teacher preparation; literature; research problems. Course may be repeated for a maximum of nine semester hours as the topic varies.

5310 Trends and Issues 3:A:0
Designed to assist the student to become knowledgeable on current trends and issues in the area of Kinesiology. Study will include historical, analytical, and projective approaches. Course may be repeated for a maximum of six semester hours as the topic varies.

5311 Seminar 3:A:0
Designed to develop abilities in locating and evaluating literature and research in Kinesiology and in allied fields. Course may be repeated for a maximum of nine semester hours as the topic varies.

5312 Independent Study 3:A:0
Intensive study in an area of special interest. Course may be repeated for a maximum of six semester hours as the topic varies.
Prerequisite: Demonstrated competence for independent work and research methods, and consent of active teaching member of graduate faculty.

5320 Kinesiology and Sport Pedagogy 3:3:0
A comprehensive introduction for Kinesiology teachers, Kinesiology supervisors, teacher educators and coaches to apply research to enhance instruction. Bridging the gap between research and practice in Kinesiology and sport.

5322 Curriculum Development 3:3:0
Emphasis given to models of curriculum development and to techniques for curriculum improvement. Analysis of objectives, organization and content.

5324 Instructional Models 3:3:0
Application of instructional and motor learning theories in the designing of instructional models in physical education.

5326 Motor Learning 3:3:0
A formalized and scientific study of learning, performance and related factors as applied to gross motor skills.

5330 Sport Administration 3:3:0
Developing analytical skills and attitudes of top management in administering the organization as a whole and the interrelationships of all problems in the organization. Establishment of strategic objectives, analysis of changing environments, developing strategies, formulating policies, decision making and problem analysis.

5333 Sport in Society **3:3:0**
An analysis of sport in American society. The study of the sociological processes that affect the individual as an active participant in sport and physical activity.

5340 Scientific Basis of Exercise **3:3:0**
A study of professional literature and laboratory experimentation on the role of physical activities and their effects on the human organism.

5342 Environmental Exercise Physiology **3:3:0**
A study as to how environmental factors affect physical performance and physiological adaptations of training in extreme environments.

5344 Strength and Conditioning **3:3:0**
Theoretical and practical concepts for the development and monitoring of training programs for strength, fitness and conditioning. Survey of relevant literature and practical applications.

5360 Research Methods **3:3:0**
Familiarity with types of research in Kinesiology with emphasis on tools and techniques of research and research design.

5365 Statistical Application in Kinesiology **3:3:0**
A study of statistical theory with application of quantitative and qualitative techniques commonly used in Kinesiology research.

5390 -5391 Thesis **6:A:0**
Prerequisite: Approval of Graduate advisor. Must complete both for required 6 hours.

Department of Family and Consumer Sciences

The Master of Science Degree in Family and Consumer Sciences (FCSC) allows students to choose courses in foods and nutrition, family studies, child development and other areas within the field. An internship in Dietetics (DI) is available at Lamar. Fifteen of the eighteen credit hours required in the DI may be applied toward the M.S. degree. Workshops and travel/study tours, along with daytime, evening and weekend classes are offered.

The Department of FCSC has adopted the admission requirements of the Lamar University College of Graduate Studies outlined elsewhere in this catalog.

A limited number of scholarships and graduate assistantships are available. Contact the Department for details.

If a student's undergraduate degree is in a discipline other than FCSC or one of its subject matter areas, the student is required to complete undergraduate course work. The graduate advisor works closely with the student to determine any undergraduate deficiences. No more than 15 undergraduate credit hours will be required.

Degree Requirements

All graduate students in the Department are required to complete FCSC 5300 and a graduate statistics course. The remainder of each student's program of study is developed according to the student's professional goals and interests.

Thesis route: This option consists of 30 credit hours. The thesis counts for six hours and the course work comprises 24 hours. Six credit hours may be taken in other departments.

Nonthesis route: A student electing this option will complete 36 hours of course work, 12 of which may be taken in other departments. Non-thesis students are required to pass a comprehensive written and oral exam covering all course work completed during the graduate program.

Graduate Faculty in Family and Consumer Sciences

Assistant Professor Frances Droddy
Child Development, FCS Education
Associate Professor Connie Ruiz, R.D.
Foods, nutrition/dietetics
Associate Professor Amy Shows, R.D.
Foods, nutrition/dietetics
Associate Professor Kim Wallet-Chalambaga
Family Studies.

Family and Consumer Sciences Courses (FCSC)

5101, 5201, 5301 Workshop in Family and Consumer Sciences
Workshops designed to strengthen professional competence needed for addressing societal issues related to family and consumer sciences. May be repeated for credit when topic of interest varies. Credit: one to three hours.

5300 Research Methods in Family and Consumer Sciences 3:3:0
Introduction to skills and techniques necessary for conducting research in family and consumer sciences subject matter areas. Emphasis on research strategies, data preparation and analysis and research reporting. Research proposal required.

5304 Dietetic Seminar I 3:3:0
Study of the delivery of nutritional services and consultation for individuals, families, and institutions. Students complete projects in meuu analysis, client education, clinical nutrition, public health, food service management and related activities.
Prerequisite: Acceptance into Dietetic Internship.

5305 Dietetic Seminar II 3:3:0
Continuation of 5304.

5306 Dietetic Practicum I 3:3:0
Supervised practice which includes an average of 32 hours per week field experience in the areas of clinical nutrition, community nutrition, and food service management. Rotations include hospitals and other health care facilities, community uutrition sites, and food service facilities. May not be applied toward a graduate degree.
Prerequisite: Acceptance into Dietetic Internship.

5307 Dietetic Pacticum II 3:3:0
Continuation of 5306.

5308 World of Work in Family and Consumer Sciences 3:3:0
A study of occupational education within the secondary curriculum focusing on developmeut and supervision of occupational programs.

5310 Recent Advances in Foods and Nutrition 3:3:0
Readings in and discussion of selected studies and recent developments in the field of nutrition and foods. Implications for dietitians, nutritionists, teachers, extension workers and others. May be repeated for credit when topic varies.

5313 Current Topics in Family and Consumer Sciences 3:3:0
Intensive study of a current problem of professional interest in family and consumer sciences. The description of the particular area of study will appear on the printed semester schedule. May be repeated for credit when topic of investigation varies.

5314 Statistical Theory and Analysis 3:3:0
A study of statistical theory with application of quantitative techniques commonly used in family and consumer sciences research.

5315 Independent Study 3:3:0
Independent study in an area of interest; review of current literature and research related to individual problems; selection and/or design of instruments used in collecting data. May be repeated for credit when topic of investigation varies.

5316 Family Violence and Therapeutic Intervention 3:3:0
Exploration of interpersonal violence throughout the life cycle from immediate and extended family members. Topics will include physical abuse, sexual abuse, and neglect perpetrated against children, spouses, and the elderly. The perspectives of law enforcement and treatment strategies will be explored.

5317 Lifespan Human Development **3:3:0**
Advanced study of human development across the lifespan from the prenatal period through senescence. Social, emotional, physical, and cognitive development are addressed.

5318 Parenting **3:3:0**
Contemporary issues facing both parents and professionals who work with them; specific study of parenting skills, parenting in families with special needs and parent-school relationships.

5319 Single Parent Families **3:3:0**
Exploration of the formation of singleparent families with their varied memberships. Topics will include divorce, widowhood, economics, and support resources. The perspectives of law enforcement, social service agencies, and financial experts will be invited.

5321 Diet Therapy **3:3:0**
Diets and nutritional support for selected diseases, surgery, and trauma. Diet counseling, medical terminology, calculation of nutrient needs for specific diseases, case studies.

5323 Nutrition Throughout the Life Cycle **3:3:0**
Physiological, biochemical and sociological factors that affect nutrient requirements and recommendations over the life cycle.

5324 Prenatal/Infant Development **3:3:0**
Study of physical, social, emotional and cognitive development from conception to age two.

5325 Community Nutrition **3:3:0**
Effects of social, economic, environmental, and political factors on the health and nutritional status of population groups. Students learn instructional techniques appropriate for conducting nutrition education with various groups.

5328 Consumer Housing **3:3:0**
A study of the home as the environment that shapes human lives. Designed to create an awareness of the social responsibilities related to housing and to provide experiences associated with planning and selecting suitable homes. Includes public housing.

5329 Family Resource Management **3:3:0**
A conceptual study of philosophies and principles of the systems approach to family management. Practical applications through individual and group approaches to problem solving.
Prerequisite: 24 hrs in FCS or consent of instructor.

5350 Cultural Foods **3:3:0**
An overview of cultural influences on primitive and modern human dietary practices. Emphasis on how humans use culture to adapt to the physical, social and supernatural environments.

5351 Weight Management **3:3:0**
Diagnosis, etiology, classification, and treatment of weight problems.

5357 Operation Analysis-Hospitality Manager **3:3:0**
Use of the microcomputer and the electronic spreadsheet for hospitality industry financial recordkeeping and reporting. Emphasis on the practical use of spreadsheets, report analysis, and the planning and control functions of budgets. Designed to develop and/or refine those competencies needed to solve practical management problems utilizing a structured approach to decision-making.

5359 Sports Nutrition **3:3:0**
The role of nutrition is discussed as it relates to athletic performance and physical activity.

5360 Organizational Behavior and Management in the Service Industry **3:3:0**
Understanding the conceptual theories related to the management process. The impact of individual and group behavior on management decisions and actions in the service industry.

5370 Resource Management Across the Lifespan **3:3:0**
Socio-economic changes, public policies and programs and management practices related to individual and family well-being through the various life cycle stages.

5380 Occupational Family and Consumer Sciences **3:3:0**
Philosophy and development of vocational family and consumer sciences education for secondary schools, colleges or universities with emphasis on occupational family and consumer sciences careers and jobs, curriculum trends and developments. Credit for course applied to six hours required for teaching in occupational family and consumer sciences programs.
Prerequisite: FCSC 5308.

5390-5391 Thesis **6:A:0**
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

College of Engineering

The objectives of the graduate programs in Engineering, Environmental Science and Studies, and Engineering Management are to:

1. Advance the state of art of the practice of engineering.
2. Advance the state of art of the teaching/learning process in engineering.
3. Contribute to the economic well being of the residents of Southeast Texas, the entire state and nation.
4. Improve the safety, health and environment of Southeast Texas, the entire state and nation.

The requirements of the various graduate programs in the College of Engineering are described below.

The College of Engineering offers graduate degrees at the master's and doctoral levels. At the master's level, both non-thesis and thesis degrees are available from each of five engineering departments. Non-thesis degrees offered are the Master of Engineering (M.E.) and the Master of Engineering Management (M.E.M.). The Master of Engineering Science (M.E.S.) offered by each engineering department; the Master of Science in Environmental Engineering and the Master of Science in Environmental Studies requires a thesis.

The Doctor of Engineering (D.E.) degree is offered through each of the five engineering departments. This degree requires a written field study documenting the findings of an advanced engineering design completed by the degree candidate.

The Doctor of Philosophy in Chemical Engineering, emphasizing methodology and technology development for sustainability of chemical and allied industry, environment, and economics, is offered through the Chemical Engineering Department in the College of Engineering.

Graduate degree programs are offered as follows:

Master of Engineering Management (M.E.M.)
Master of Engineering Science (M.E.S.)
Master of Engineering (M.E.)
Doctor of Engineering (D.E.)
Master of Science in Environmental Engineering (M.S.)
Master of Science in Environmental Studies (M.S.)
Doctor of Philosophy (Ph.D.) in Chemical Engineering

Master of Engineering Management (M.E.M.)

The Master of Engineering Management is a non-thesis degree program with all required courses offered after 4 p.m. Course work is designed to build onto the education received while completing an accredited bachelor's degree in engineering and the individual's professional experience. Hence, practicing engineers generally will not require undergraduate prerequisites.

A total of 36 credit hours are required at the graduate level. Included among these 36 credit hours are 15 hours of core courses required of all M.E.M. students. Course work in addition to the required core courses is tailored specifically to the needs of the student, but generally has approximately one-third of the courses in the general area of technical management, one-third in Business Administration, and one-third in the student's technical discipline such as Civil Engineering, Chemical Engineering, Electrical Engineering, Industrial Engineering or Mechanical Engineering.

Admission Requirements

Admission standards are designed to ensure that all enrolled students are qualified professionals serving in a leadership role in their engineering discipline. The four primary requirements are as follows:

1. B.S. in Engineering or Equivalent.
2. Graduate Record Examination (GRE) Scores (Verbal + Quantitative) = 1000 or more.
3. Two-to-five years of engineering experience in a leadership role.
4. Letter of recommendation for the program from someone in direct supervision over the applicant in his/her primary employment.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. Completion of a core program of 15 semester hours of specified courses.
3. Completion of a minimum of at least 36 semester hours from an approved list of courses. (See typical programs)

Step by Step Procedure

1. Obtain a Bachelor of Science Degree in Engineering.
2. Complete two-to-five years of professional practice in a position of leadership.
3. Apply for Admission to the Graduate College of Lamar University
   a. Complete Graduate application, obtainable by calling (409) 880-8356 or online at www.lamar.edu
   b. Take GRE and have scores sent to: Graduate Admissions, Lamar University, P.O. Box 10078, Beaumont, Texas 77710.
   c. Have all undergraduate transcripts sent to Graduate Admissions.
   d. Have letter of recommendation from supervisor sent to: Coordinator of Engineering Graduate Programs, P.O. Box 10032, Beaumont, Texas 77710.
4. In consultation with Coordinator of Engineering Graduate Programs, select graduate committee.
5. Complete 12 hours of course work including at least three core courses and apply for admission to candidacy.
6. Complete remaining course work specified in candidacy application
   a. Apply for Graduation
   b. Obtain copy of Comprehensive Examination policy from Industrial Engineering Department.
   c. Request and schedule Comprehensive Examination.
   d. Pass Comprehensive Examination
7. Graduate

Core Courses

1.	INEN	5369	Engineering Management
2.	INEN	5320	Statistical Decision-Making for Engineers
			or
	INEN	5370	Operations Research
3.	INEN	5315	Industrial Management
			or
	INEN	5376	Occupational Ergonomics

4. INEN 5366 Advanced Engineering Economics
5. ACCT 5300 Financial Accounting

Typical Program Options

Each student in consultation with an advisor should design a program tailored to meet his or her own specific educational objectives. The following typical program options are suggested. Substitutions and/or modifications to these programs can be accomplished with the approval of the student's advisor.

I. Manufacturing Management Concentration

Technical Discipline

INEN 5370 Operations Research
INEN 5350 Production and Inventory Control
INEN 5345 Computer Integrated Manufacturing (CIM)
INEN 5376 Occupational Ergonomics

Technical Management

INEN 5369 Engineering Management
INEN 5366 Advanced Engineering Economics
INEN 5320 Statistical Decision Making for Engineers
INEN 5315 Industrial Management

Business Administration

ECON 5300 Foundations of Economics
ACCT 5300 Financial Accounting
ACCT 5370 Managerial Accounting
MKTG 5300 Marketing Concepts

II. Quality Management

Technical Discipline

INEN 6359 Computer Methods in SQC
INEN 5303 Regression Analysis
INEN 5319 Design of Experiments
INEN 5300 Quality Improvement

Technical Management

Same as Option I

Business Administration

Same as Option I

III. Construction Project Management (CVEN)

Technical Discipline

CVEN 6388 Project Management
ENGR 6389 Comp. Aided Software Engineering
CVEN 5308 Cost Optimization & Scheduling Engineering
CVEN 5328 Theory of Structures

Technical Management

Same as Option I

Business Administration

Same as Option I

IV. Environment Management (CVEN)

Technical Discipline		Technical Management
CVEN 5331	Biological Waste Water	Same as Option I
CVEN 5325	Fundamentals of Air Pollution	**Business Administration**
CVEN 5329	Water Supply and Treatment	Same as Option I
CVEN 6387	Hydraulics of Environmental Systems	

V. Construction Project Management (CHEN)

Technical Discipline		Technical Management
CHEN 5357	Process Simulation	Same as Option I
ENGR 5301	Process Modeling with Neural Network	**Business Administration** Same as Option I
CHEN 5360	Thermodynamics Process Industry	

VI. Electrical Engineering Management (ELEN)

Technical Discipline		Technical Management
ENGR 5383	Instrumentation	Same as Option I
ELEN 5354	Discrete Control Systems	**Business Administration**
ELEN 5344	Electrical Power Systems Analysis I	Same as Option I
CHEN 5352	Advanced Process Control	

VII. Construction Project Management (INEN)

Technical Discipline		Technical Management
CVEN 6388	Project Management	Same as Option I
INEN 5303	Regression Analysis	**Business Administration**
INEN 5374	Human Factors Engineering	Same as Option I
INEN 5305	Reliability	

VIII. Construction Project Management (MEEN)

Technical Discipline		Technical Management
ENGR 5301-61	Special TopicsEngineering Analysis	Same as Option I
ENGR 5301-64	Special Topics: Optimization of Thermal/Mechanical Systems	**Business Administration** Same as Option I
ENGR 530162	Special Topics: Control of Mechanical Systems	
CVEN 5313	Fluid Mechanics	

Master of Engineering Science (M.E.S.), Master of Engineering (M.E.), and Doctor of Engineering (D.E.)

The Master of Engineering Science, Master of Engineering and Doctor of Engineering programs are administered by the Graduate Steering Committee. Students entering these programs are responsible to this committee until a permanent graduate committee including a chairman is selected and approved. The student should select an advisor and a permanent graduate committee must be formed before the student has completed 15 semester hours of

graduate work. No credit toward a graduate degree will be granted unless approved by either the Graduate Steering Committee or the student's permanent graduate committee.

Core Course Categories for the M.E.S., M.E. and D.E. Programs:

Category	Course Number and Title	
1.	Mathematics/Statistics	
	ENGR 5301-07	Sp. Topics: Process Modeling – Neural Networks
	ENGR 5388	Special Topics: Engineering Systems Analysis
	INEN 5320	Statistical Decision Making for Engineers
	INEN 5303	Regression Analysis
	MEEN 5304	Advanced Engineering Analysis
	INEN 5305	Reliability
	INEN 5319	Design of Experiments
	ELEN 6314	Computer Control and Instrumentation
2.	Optimization/Management	
	ENGR 5301-05	Sp. Topics: Optimization of Chemical Processes
	ENGR 6349	Engineering Applications of AI and Expert Systems
	CVEN 6388	Comp. Mtds. of Engr. Project Management
	INEN 5370	Operations Research
	ENGR 5301-64	Sp. Topics: Optimization of Thermal/Mechanical Systems
3.	Simulation/Control	
	CHEN 5357	Process Simulation
	CVEN 5324	Models in Hydrological Systems
	ELEN 6358	Industrial Automation and Process Control
	INEN 5375	Simulation of Industrial Systems
	ENGR 5301-62	Special Topics: Control of Mechanical Systems

Master of Engineering Science (M.E.S.)

The Master of Engineering Science Degree requires the completion of 30 semester hours of graduate course work, including a thesis.

Admission Requirements

For admission to the program, the student must meet the following requirements:

1. The general requirements for admission to the College of Graduate Studies.
2. Hold a bachelor's degree in a field of engineering or related discipline with credit substantially equivalent to that required for bachelor's degrees at Lamar University.
3. These are minimum admission requirements. Individual departments may be more selective.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. A minimum of 3 semester hours (one course) from those courses listed above as core courses.
3. A minimum of 21 semester hours (seven courses) of electives. Additional core courses may satisfy part of this requirement.
4. Satisfactory completion and defense of thesis (ENGR 5390 and ENGR 5391).

Master of Engineering (M.E.)

The Master of Engineering Degree is a non-thesis 36 semester hour* program designed to suit the needs of the practicing engineer.

Admission Requirements

For admission to the program, the student must meet the following requirements:

1. The general requirements for admission to the College of Graduate Studies.
2. Hold a bachelor's degree in a field of engineering or related discipline with credit substantially equivalent to that required for bachelor's degrees at Lamar University.
3. These are minimum admission requirements and may be more selective for individual departments.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. Completion of one course from each of the three categories of core courses for a total of 9 semester hours of core course work. The core course categories and core courses are listed above.
3. A minimum of 27 semester hours* (nine courses) of electives. Additional core courses may satisfy part of this requirement.
4. Satisfactory completion of a final comprehensive examination.

**A graduate student who has passed the Fundamentals of Engineering Examination or a graduate student who is a Professional Engineer registered in the State of Texas (or registered in another state where requirements do not conflict with the provisions of the Texas Engineering Practice Act and are of a standard not lower than those specified in Section 12 of that Act) may satisfy course requirements by completing 24 semester hours of electives toward a total of 33 semester hours provided ENGR 6310 (Design Project) is included.*

Doctor of Engineering (D.E.)

The Doctor of Engineering Degree is designed to permit the practicing engineer to study practical engineering problems of a complex nature.

Admission Requirements

For admission to the program, the following requirements must be met:

1. The general requirements of the College of Graduate Studies.
2. The applicant must hold a Bachelor of Science degree in a field of engineering. The applicant must have an overall GPA and quantitative section of the GRE score which meets the following criteria: (50*GPA + GRE) must equal or exceed 800. International students must have a minimum TOEFL score of 530.
3. The applicant must hold a Master's degree or have completed at least 30 semester hours of course work at the graduate level in a field of engineering or a closely related discipline.
4. These are minimum admission requirements. Individual departments may be more selective.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. The student shall complete a residency of one year.

3. The student shall register for ENGR 6110, Professional Seminar, each semester in which the student is registered for more than six hours or in which the student is registered for field study. A minimum of 4 hours is required.
4. Completion of one course from each of the three categories of core courses for a total of 9 semester hours of core course work. The core course categories and core courses are listed above. Exceptions to this rule must be approved by the Director of Engineering Graduate Studies.
5. Completion of the diagnostic examination. This examination has the objectives of determining the student's qualifications for a doctoral program and to provide guidance for the selection of a study program. This examination must be completed before the student has earned 15 semester hours of course credit after admission to the program.
6. Completion of a minimum of 18 credit hours of field study preparatory courses in a concentration designed to form a cohesive degree plan and must be approved by the student's advisory committee. The field study preparation includes completion of one semester of ENGR 6320, Justification of Engineering Project.
7. Completion of candidacy examination. The purposes of this examination are to test the ability of the student to comprehensively relate the subjects of the study program and to ascertain the student's qualifications to perform the field study.
8. Completion of the field study. After the student is admitted to candidacy a formal engineering proposal must be presented to the doctoral committee. Upon committee approval of the proposed field study the work is initiated. Normally, 30 semester hours of field study is required.
9. Defense of field study. Upon completion of the field study a formal report with a standard thesis format shall be submitted to the committee and defended in an oral examination.

Master of Science in Environmental Engineering

Until recently, environmental engineers were primarily concerned with municipal water systems and sewage treatment facilities. The bulk of the course work dealt with the application of engineering solutions to human health problems. Today, the field includes the study of water quality, air quality and methods for disposing of toxic/hazardous wastes. Overall, environmental engineers are engaged in solving the large and complex environmental problems threatening the natural ecosystem.

The Master of Science in Environmental Engineering program is designed to provide engineers with the highly specialized chemical/civil engineering background needed by industry and by regulatory agencies on the federal, state and municipal levels.

Admission Requirements

For admission to the program, the student must meet the following requirements:

1. The general requirements for admission to the College of Graduate Studies.
2. Hold a bachelor's degree in a field of engineering which is equivalent to a bachelor's degree at Lamar University.
3. Because of the diversity of the scientific disciplines which are admitted to the environmental studies program, some students may be lacking in certain fundamental subject areas, usually undergraduate level courses in engineering, microbiology, basic chemistry, geology, and/or mathematics. These courses must be taken in addition to the curriculum required for the master's degree program.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. A minimum of 12 semester hours (4 core courses) from those listed below:

CHEM	5301	Special Topics in Environmental Chemistry[1]
CVEN	5325	Fundamentals of Air Pollution
CVEN	5329	Water Supply and Treatment
CVEN	5331	Biological Wastewater Treatment
CHEN	6344	Multimedia Transport of Pollutants
CVEN	6387	Hydraulics of Environmental Systems[2]

[1]with committee approval, an equivalent chemistry course may be substituted.
[2]with committee approval, Hazardous Woste Management (ENGR 6339) may be substituted.

3. A minimum of 15 semester hours (five courses) of designated electives from the list below or other approved electives:

BIOL	5301	Special Topic: Microbiology
BIOL	5430	Limnology
BIOL	5470	Ecology of Polluted Waters
CHEM	5411	Biochemistry I
CVEN	5324	Models in Hydrological Systems (HEC-HMS, HEC-RAS)
CVEN	5326	Hydrologic and Hydrodynamic Processes
CVEN	5338	Solid Waste Management
CHEN	5342	Reactor Design for Environmental Systems
CVEN	5343	Industrial Waste Treatment
CVEN	5351	Unit Operation in Environmental Engineering
GEOL	5301	Special Topic: Hydrogeology
CVEN	6339	Hazardous Waste Management
ENGR	6389	Computer-Aided Software Engineering (Geographic Information System)

4. Satisfactory completion and defense of thesis*

**with committee approval, 12 credit hours of Environmental Electives may be substituted.*

Master of Science in Environmental Studies

The environmental studies program is designed for students who wish to continue to work in their scientific specialty but as it relates to environmental affairs. The degree is especially intended for individuals who wish to work in the evaluation, operations and/or regulatory aspects of the field as opposed to the design or engineering areas. Consequently, the program will provide an understanding of environmental problems and processes from the point of view of the chemist, biologist or geologist and provide the interdisciplinary perspective needed to cope with various environmental issues.

Admission Requirements

For admission to the program, the student must meet the following requirements:

1. The general requirements for admission to the College of Graduate Studies.
2. Hold a bachelor's degree in chemistry, biology, geology, the subdivisions of those fields e.g. microbiology, organic chemistry, hydrogeology, etc. or other closely related fields with credit substantially equivalent to that required for bachelors' degrees at Lamar University.

3. Some applicants to this program may be required to take undergraduate level courses in engineering, geology, microbiology, basic chemistry and/or mathematics. These courses must be taken **in addition to** those required for the masters program and will be selected in consultation with the advisor early in a student's graduate career.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. A minimum of 6 semester hours (two graduate courses) in the student's science specialty.
3. A minimum of 12 semester hours (four core courses) from those listed below:

CHEM	5301	Special Topics in Environmental Chemistry[1]
CVEN	5325	Fundamentals of Air Pollution
CVEN	5329	Water Supply and Treatment
CVEN	5331	Biological Wastewater Treatment
CHEN	6344	Multimedia Transport of Pollutants
CVEN	6387	Hydraulics of Environmental Systems[2]

[1]with committee approval, an equivalent chemistry course may be substituted.
[2]with committee approval, Hazardous Waste Management (ENGR 6339) may be substituted.

4. A minimum of 9 semester hours (three courses) of designated electives from the list below or other approved electives:

BIOL	5301	Special Topic: Microbiology
BIOL	5430	Limnology
BIOL	5470	Ecology of Polluted Waters
CHEM	5411	Biochemistry I
CVEN	5324	Models in Hydrological Systems (HEC-HMS, HEC-RAS)
CVEN	5326	Hydrologic and Hydrodynamic Processes
CVEN	5338	Solid Waste Management
CHEN	5342	Reactor Design for Environmental Systems
CVEN	5343	Industrial Waste Treatment
CVEN	5351	Unit Operation in Environmental Engineering
GEOL	5301	Special Topic: Hydrogeology
CVEN	6339	Hazardous Waste Management
ENGR	6389	Computer-Aided Software Engineering (Geographic Information System)

5. Satisfactory completion and defense of thesis*

**with committee approval, 12 credit hours of Environmental Electives may be substituted*

Doctor of Philosophy (Ph.D.) in Chemical Engineering

Admission Standards

A minimum undergraduate GPA of 3.0/4.0 or a graduate GPA of 3.5/4.0, a Graduate Record Examination (GRE) minimum score (verbal + quantitative) of 1200, three letters of recommendation, and a personal statement of educational goals are required to be considered for admission into the Ph.D. program. For international students, a TOEFL score of at least 550 is also required. For applicants without a chemical engineering degree, the Department Graduate Coordinator will determine a plan of study that will facilitate successful completion of all requirements for the Ph.D. degree. This may include additional coursework, independent study, or other means to enhance the student's knowledge of key elements in this field.

Degree Requirements

1. Credit Hour Requirements

Ph.D. candidates must complete a minimum of 70 credit hours of coursework beyond the bachelor's degree. The Lamar University Chemical Engineering Ph.D. program requires a coherent program of (1) 15 credit hours selected from the specified core courses, (2) 21 credit hours of elective courses in chemical engineering or related fields (electives from other colleges must be approved on a case-by-case basis), (3) 4 hours of Professional Seminar (CHEN 6110), (4) a research project of at least 12 hours of research courses (CHEN 6680) prior to admission to candidacy, and (5) 18 hours of Ph.D. dissertation courses (CHEN 6690 and CHEN 6691) after admission to candidacy.

2. Direct Action Items

- Ph.D. Advisor and Advisory Committee

The Ph.D. advisor is mutually selected by the student and the faculty member. The Ph.D. advisor must be a Lamar University graduate faculty member in the Department of Chemical Engineering. The Ph.D. Advisory Committee will consist of a minimum of three Lamar University graduate faculty members in the Department of Chemical Engineering and one graduate faculty member from another department or one qualified expert from other institutions, organizations, or industry with the invitation of the advisor and the approval of the Department Chair, the Dean of Engineering, and the Dean of Graduate Studies. In addition, the Dean of Graduate Studies will appoint a graduate faculty member from another college as the Graduate Council Representative at both the defense of the dissertation proposal and the oral defense of the dissertation.

- Written Qualifying Examination

Each student desiring the Ph.D. degree is required to pass a written qualifying examination. The purpose of the written qualifying examination is to test the student's understanding of basic scientific and engineering principles and their application to the student's research interests. Students must attempt the written qualifying examination during either their second or third long semester in the program. The written qualifying examination is administered once each long semester. The student's cumulative graduate GPA must be at least 3.0 at the time of the examination.

The written qualifying examination is an eight-hour written examination with a selection of problems from Transport Phenomena, Thermodynamics, Kinetics and Engineering Mathematics designed to test understanding of basic concepts and principles. Based on the results of the written qualifying examination, the Ph.D. qualifying examination committee will recommend the student (1) be allowed to prepare a dissertation proposal, (2) be granted a second and final attempt at one or more parts of the examination, or (3) be withdrawn from the Ph.D. program.

• Degree Plan

Students must select their Ph.D. advisor within one semester after passing the Ph.D. written qualifying examination. Students must submit their degree plans within one year of passing the Ph.D. written qualifying examination. The degree plan must be approved by the Ph.D. advisor, the Department Graduate Coordinator, the Department Chair, the Dean of Engineering, and the Dean of Graduate Studies.

• Dissertation Proposal

The general field of dissertation research should be agreed upon by the student and the Ph.D. Advisory Committee. As soon thereafter as the research project can be outlined in reasonable detail, the student should complete the dissertation proposal. The dissertation proposal must be approved at a meeting of the student's Advisory Committee. The committee will also review the feasibility of the proposed research and the adequacy of available facilities.

The approved proposal must be signed by all members of the student's Advisory Committee (with the exception of the Graduate Council Representative), the Department Chair, and the Dean of Engineering. It must be submitted to the College of Graduate Studies at least 14 weeks prior to the scheduling of the final examination.

Students performing research involving human subjects, animals, infectious biohazards or recombinant DNA must receive approval from the College of Graduate Studies prior to conducting their research.

The student is admitted to candidacy only after the defense and the approval of the dissertation proposal and the completion of a minimum of 12 graduate credit hours.

• Dissertation Preparation

After the dissertation proposal is approved, the candidate may begin to prepare the dissertation under the guidance of the Ph.D. advisor and the Advisory Committee. The dissertation must be an original work of the candidate that demonstrates the student's ability to perform independent research. Acceptance of the dissertation is based primarily on its scholarly merit, but it must also exhibit credible literary workmanship. The format of the dissertation must be acceptable to the College of Graduate Studies.

The candidate must submit a single, unbound copy of the dissertation in final form to the College of Graduate Studies at least 10 days before the oral dissertation defense (final exam).

• Dissertation Defense

The candidate for the Ph.D. degree must pass a dissertation defense by deadline dates announced in the Academic Calendar each semester or summer term. No student may defend a dissertation without having current official cumulative and degree plan GPAs of 3.0 or better and without having been admitted to candidacy. There must be no grades of D, F, I, or U for any course listed on the degree plan. To absolve a deficient grade, a student must repeat

the course and achieve a grade of C (or S) or better. Students must be registered during the semester in which the dissertation defense takes place and must have completed all course work on their degree plans with the exception of remaining dissertation courses.

The qualifying examination results and the dissertation proposal must be submitted to the College of Graduate Studies at least 14 weeks prior to the date of the defense. The request for permission to hold and announce the dissertation defense must be submitted to the College of Graduate Studies a minimum of 10 working days in advance of the scheduled defense date. The dissertation defense for the Ph.D. degree must be administered on campus unless otherwise authorized by the College of Graduate Studies.

The student's Ph.D. Advisory Committee, as finally constituted, will evaluate this dissertation defense. A positive vote by members of the Ph.D. Advisory Committee (with the exception of the Graduate Council Representative) with no more than one dissension is required to pass the defense. The candidate and all visitors must excuse themselves from the proceedings before the vote.

The Advisory Committee will submit its recommendations on the appropriate form to the College of Graduate Studies regarding acceptability of the candidate for the Ph.D. degree. Defenses that are not completed and reported as satisfactory to the College of Graduate Studies within 2 working days of the scheduled defense date will be recorded as failures.

By dates announced each semester in the Academic Calendar, the candidate must submit to the College of Graduate Studies three official copies of the dissertation in final form on rag content paper with two extra copies of the abstract. The dissertation must include all suggestions and corrections of the members of the student's Advisory Committee and must bear the signatures of the advisor, the Department Chair, the Dean of Engineering, and the members of the student's Advisory Committee, with the exception of the Graduate Council Representative.

3. Special Conditions

- Transfer of Credits

Courses for which transfer credits are sought must have been completed with a grade of A, B, or S (Satisfactory) and have been accepted as graduate credits by an accredited institution where the work was taken. Transfer credits must be approved by the student's advisor, the Department Graduate Coordinator, the Department Chair, and the College of Graduate Studies. For students with a master's degree from another accredited institution, only the graduate level courses taken during their study for a master's degree and pertaining to the field of current study can be transferred. For students without a master's degree, a maximum of 6 hours may be transferred. Students may transfer a maximum of 6 hours of Ph.D. courses beyond the credits used for the master's degree.

- Residence

Students who enter the Ph.D. degree program with only a baccalaureate degree must spend at least two academic years in resident study. Students holding master's degrees upon entering the Ph.D. degree program must spend at least one academic year in resident study. One academic year may include two adjacent long semesters or one long semester and two adjacent six-week summer semesters.

- Continuous Enrollment Requirement

From the time they advance to candidacy until the defense of their dissertation, Ph.D. students must maintain continuous enrollment by registering for at least six credit hours

each long semester until the dissertation is approved and accepted. Special cases must be approved by the advisor, the Department Graduate Coordinator, the Department Chair, the Dean of Engineering, and the Dean of Graduate Studies.

- Time Limit

All requirements for the Ph.D. degree must be completed within a period of ten consecutive calendar years for the degree to be granted. A course will be considered valid until 10 years after the end of the semester in which it is taken. Graduate credit for course work more than ten calendar years old at the time of the final oral examination may not be used to satisfy degree requirements.

Final corrected copies of the dissertation and record of study must be accepted by the College of Graduate Studies no later than one year after the dissertation defense or within the 10-year time limit, whichever occurs first. Failure to do so will result in the degree not being awarded.

Core Courses

CHEN 5302 Transport Phenomena
CHEN 5352 Advanced Process Control
CHEN 6343 Kinetics and Reactor Design
CHEN 6345 Fundamentals of Sustainability
CHEN 6347 Advanced Thermodynamics
CHEN 6348 Advanced Chemical Engineering Mathematics

Core Courses (15 Credit Hours)

CHEN 5302 Transport Phenomena
Analysis of transport with respect to fluid dynamics, heat arid mass transfer. Derivation of Navier-Stokes Equation and its application to flow phenomena. Boundary layer flows, molecular interpretation of viscosity, and interfacial tension and Its relation to slip/non-slip condition. Interdependence of fluid flow, heat transfer, and mass transfer. Tensor and vector notation will be presented and employed.

CHEN 5352 Advanced Process Control
Modem control theory concerning state-space formulation, multivariable control, optimal control, and discrete control for Jumped/distributed parameter systems is addressed. Applications of control theory and the implementation of control strategies for the chemical processing industries are demonstrated

CHEN 6343 Kinetics and Reactor Design
Emphasis is placed on complex reactor design, Attention is devoted to chemical kinetics and catalysis as *well as* to the engineering aspects of both homogeneous and heterogeneous reactors. Mixing problems in terms of residence, time distribution. The importance of temperature effects is stressed.

CHEN 6345 Fundamentals of Sustainibility
This course examines the scientific basis and technology details of sustainability, defined as "minimization of the effect of entropy on society," Emphasizes the interface among engineering, environment, and economics. Incorporates the ideas of sustainability into chemical engineering fields such as process and product design, manufacturing, and value chain management *for* the purpose of minimizing both *resource* utilization and adverse environmental impact.

CHEN 6347 Advanced Thermodynamics
Derivation of thermodynamic laws and application to physical chemical phenomena. Development of ideal and non-ideal gas, liquid, and solid solution behaviors for physical and chemical equilibria. Course credit in chemistry is optional.

CHEN 6348 Advanced Chemical Engineering Mathematics
The course covers the fundamentals and numerical techniques for Linear Systems of Equations, Nonlinear Systems of Equations, Numerical Differentiation/Integration, Regression Analysis, Systems of Ordinary Differential Equations, and Partial Differential Equations, for modeling and analysis of chemical engineering systems.

Graduate Faculty

Associate Professor Kendrick (Ken) Aung
Combustion, propulsion, energy systems, sprays, mixing

Professor Wendell C. Bean
Control systems, biomedical signal processing

Professor Daniel H. Chen
Process control, process simulation, air pollution control

Professor Hsing-wei Chu
Operations research statistical decision analysis, networks

Professor David L. Cocke
Analytical and environmental chemistry, catalysis

Professor Paul Corder
Mechanical systems design; stress analysis; finite element models

Associate Professor Brian N. Craig
Ergonomics, human factors

Associate Professor Xing Fang
Water quality management and modeling, environmental hydraulics, hydrodynamics, water resources engineering

Associate Professor John L. Gossage
Reaction kinetics, reactor design, polymerization

Professor Tho-Ching Ho
Fluidization, heat transfer, optimization

Professor Jack R. Hopper
Reaction kinetics, catalysis, pollution prevention

Associate Professor Mien Jao
Geotechnical engineering

Professor Enno Koehn
Construction, planning, scheduling and productivity, design and analysis

Professor Ku-Yen Li
Mass transfer, gas-liquid reactions, unit operations in environmental engineering

Associate Professor CheJen (Jerry) Lin
Environmental engineering

Assistant Professor Sidney Lin
Materials science, fuel cells, ceramic membrane separation

Associate Professor Helen Lou
Process modeling, simulation and optimization; Sustainable Engineering

Professor Bernard J. Maxum
Electromagnetics, antennas and propagation, rf, microwave, mm waves, optics

Professor Harley R. Myler
Image and signal processing, digital video, video communications and networks, control systems

Associate Professor G.N. Reddy
Computer engineering, artificial neural networks & fuzzy logic, digital signal processing, Industrial automation, Instrumentation, Virtual systems, Computer networks

Assistant Professor Selahattin Sayil
VLSI design and testing, contactless testing and testability, interconnect noise modeling, cmac neural networks

Professor Malur Srinivasan
Advanced materials processing, modeling of microstructure evolution in manufactured products, development of nanostructured engineering products

Assistant Professor Rafael Tadmor
Wetting/Dewetting phenomena, forces between surfaces, viseosity of confined liquids, biolubrication forces in biological systems

Assistant Professor Ryan Underdown
Enterprise Engineering
Engineering Management

Assistant Professor Ruhai Wang
Computer Networks, Internetworking, Telecommunication systems, Microcomputer and computer architecture

Graduate Faculty (con't)

Assistant Professor Qiang Xu
Sustainable Systems Engineering and Industrial Sustainability; Process and Product Synthesis and Integration

Professor Carl L. Yaws
Physical and thermodynamic properties, distillation

Professor Fred M. Young
Fluid dynamics, heat transfer

Professor Robert Yuan
Structural Analysis, Experimental Mechanics, Civil Engineering Composites

Professor Victor Zaloom
Engineering economics, manufacturing productivity, computer applications, statistical quality control

Assistant Professor Jiang (Jenny) Zhou
System dynamics, system optimizations, mechanical issues in microelectronics, biomechanics

Assistant Professor Weihang Zhu
Computer haptics, virtual reality, computer aided design and manufacturing/computer numurial control, medical simulation, computational geometry, information technology

Engineering Courses (ENGR)

5101, 5201, 5301 Special Topics 3:1-3:0
An investigation into specialized study in advanced areas of engineering under guidance of a faculty member. This course may be repeated for credit when topics of investigation differ.

5110 Seminar 1:1:0
Discussion of ethical, professional, and technical topics related to the practice of civil engineering. Presentation of oral and written reports.

5311 Heat Transfer Analysis 3:3:0
Fundamental principles of heat transfer by conduction, convection and radiation. Emphasis will be given to the analysis of problems combining the various heat transfer mechanisms.

5348 Advanced Air Pollution Control 3:3:0
Air pollution control and design principles; VOC incineration; gas absorption; air pollution and atmospheric dispersion modeling; particulate matter; cyclones, electrostatic precipitators; fabric filters and scrubbers; control of nitrogen oxides and sulfur oxides.

5390-5391 Thesis 6:A:0
Prerequisite: Approval of graduate advisor. Must complete both for required 6 credits.

6110 Professional Seminar 1:1:0
Advanced topics suitable for research along with research procedures will be discussed. Field study organization and content together with doctoral research problems and progress will be presented. Topics will vary each semester and course may be repeated for credit. Registration and completion for three semesters is required of all doctoral candidates.

6310 Design Projects 3:A:0
May be repeated for credit when the subject matter varies.
Prerequisite: Admission to candidacy.

6320 Justification of Engineering Projects 3:3:0
The preparation of proposals for advanced engineering work. The student will be given individual assistance in preparing a proposal for his field study.
Prerequisite: Approval of advisory committee.

6349 Engineering Applications of AI/Expert Systems 3:3:0
An in-depth study of the effective utilization of Artificial Intelligence/Expert Systems as applied to engineering problems. Projects assigned will involve the design and development of software systems to solve discipline-specific problems using available AI languages and expert system shells.

6369 Computer Methods of Engineering Optimization 3:3:0
Formulation, solution and implementation of optimization models such as linear programming, dynamic programming, integer programming, quadratic programming, convex programming, geometric programming and unconstrained optimization for analyzing complex systems problems in industry. One or more software packages will be used to execute the algorithms presented throughout the course.
Prerequisite: A graduate course in operations research.

6389 Computer-Aided Software Engineering 3:3:0
Analysis and utilization of computer software to solve engineering design problems. Applications on the CAD/CAE and various other systems will be emphasized.

6601 Engineering Practice 6:A:0
An internship period under personal supervision. Approval must be obtained from the student's graduate committee. Usually, a formal proposal will be required. May be taken for either six or 12 hours credit per semester. Must be repeated for credit until field study is completed. Total credit: six semester hours per section.

6602 Engineering Practice 6:A:0
An internship period under personal supervision. Approval must be obtained from the student's graduate committee. Usually, a formal proposal will be required. May be taken for either six or 12 hours credit per semester. Must be repeated for credit until field study is completed. Total credit: six semester hours per section.

Chemical Engineering Courses (CHEN)

5302 Transport Phenomena 3:3:0
Analysis of transport with respect to fluid dynamics, heat and mass transfer. Derivation of Navier Stokes Equation and its application to flow phenomena. Boundary layer flows, molecular interpretation of viscosity, and interfacial tension and its relation to slip/non slip condition. Interdependence of fluid flow, heat transfer, and mass transfer. Tensor and vector notation will be presented and employed.

5341 Mass-Transfer Operations 3:3:0
The principles of diffusion and mass transfer are considered. The study of gas-liquid operations includes humidification and design of equipment. Solid-fluid studies include absorption, ion exchange, drying and leaching operations. Less conventional mass-transfer operations are also considered.

5342 Reactor Design for Environmental Systems 3:3:0
Development of the fundamentals for the rate of chemical reactions and biological reactions in homogeneous and heterogeneous systems. Analysis of ideal chemical reactors and their design with application to environmental reactions in the air, water and soil. An introduction to the basic concepts of mathematics modeling. The subject matter is directed toward chemical and petroleum engineering design and operation. Development of models which form the framework of a quantitative and scientific approach to technical problems will be followed by analytical and/or numerical solutions to optimize output and profitability.

5352 Advanced Process Control 3:3:0
Modern control theory concerning state space formulation, multivariable control, optimal control, and discrete control for lumped/distributed parameter systems is addressed. Applications of control theory and the implementation of control strategies for the chemical processing industries are demonstrated.

5357 Process Simulation
Steady state chemical and refining processes simulation using state-of-the-art computer software.

5358 Advanced Process Simulation
In depth coverage of chemical and refining processes using state-of-the-art steady-state computer simulation software. Advanced topics and fundamentals are emphasized.

5359 Dynamic Simulation
Chemical and refining process dynamic simulation using state-of-the-art computer software. Controller installation and central schemes are discussed.

5360 Thermodynamics-Process Industry 3:3:0
Thermodynamic laws are derived and applied to physical chemical phenomena. Ideal and non-ideal gas, liquid and solid solution behavior are developed for physical and chemical equilibria. Course credit in chemistry is optional. May be repeated one time for graduate credit, with prior approval, where course content varies.

5361 Process Optimization **3:3:0**
Linear and non-linear optimization. Introduction to optimization technique and concepts.

5371 GIS in Water Resources **3:3:0**
Introduction or geographic information system (GIS-ArcView or Arc/Info) to analyze spatial data for engineering feasibility study. Discussion of application of GIS in water resource engineering (digital elevation models, river and watershed networks, and land use mapping, hydrological modeling). May be repeated for credit when subject matter varies.

5392 Intermolecular Forces with Applications to Biology **3:3:0**
An introduction to the various intermolecular and inter-particle interactions in solutions and in colloidal systems: van der Waals, electrostatic, hydrophobic. Polymers in solutions, surfactants in solutions, colloidal systems in electrolyte environment, with surfactants and with polymers. Surfaces and interfaces: surface energy, surface tension, wetting, biological surfaces and cell membranes, and how polymers interact with cell membrane.

5394 Wetting Phenomena and Transport Related Effects **3:3:0**
Young-Dupre approach to wetting and the relation between Marangoni Effect and the spreading coefficient. Covers the concept of complete wetting, partial wetting, and non-wetting systems. Follows some experimental methods related to wetting.

6110 Professional Seminar **1:1:0**
Advanced topics for research procedures; field study organization and content, Ph.D. research problems and progress. Topics vary each semester. Registration and completion for four semesters is required for all Ph.D. candidates. *May be repeated for credit.*

6340 Distillation **3:3:0**
Material and energy-balance relationships are reviewed for multicomponent fractionation equipment and for batch stills. Various plate designs are presented from the standpoint of two-phase hydraulics and mass-transfer efficiency.

6343 Kinetics and Reactor Design **3:3:0**
Emphasis is placed on complex reactor design. Attention is devoted to chemical kinetics and catalysis as well as to the engineering aspects of both homogeneous and heterogeneous reactors. Mixing problems in terms of residence time distribution. The importance of temperature effects is stressed.

6344 Multimedia Transport of Pollutants **3:3:0**
Chemical transfer rates between air and water, water and soil/sediment, as well as air and soil. Intraphase pollutant processes in atmosphere, surface water, and ground water. Description of the dispersion model and the meterological effects on pollutant transport. Discussion of partition to biomass and exposure pathways.

6345 Fundamentals of Sustainability **3:3:0**
This course examines the scientific basis and technology details of sustainability, defined as "minimization of the effect of entropy on society." Emphasizes the interface among engineering, environment, and economics. Incorporates the ideas of sustainability into chemical engineering fields such as process and product design, manufacturing, and value chain management for the purpose of minimizing both resource utilization and adverse environmental impact.

6346 Sustainability Applications **3:3:0**
Practical applications of sustainability to topics including environmental research, pollution prevention, plant safety/abnormality management and control, process optimization, renewal energy, innovative material, and biotechnology to support the sustainability of our environment, society, and industry.
Prerequisite: Fundamentals of Sustainability (CHEN 6345).

6347 Advanced Thermodynamics **3:3:0**
Derivation of thermodynamic laws and application to physical chemical phenomena. Development of ideal and non ideal gas, liquid, and solid solution behaviors for physical and chemical equilibria. Course credit in chemistry is optional.

6348 Advanced Chemical Engineering Mathematics **3:3:0**
The course covers the fundamentals and numerical techniques for Linear Systems of Equations, Nonlinear Systems of Equations, Numerical Differentiation/Integration, Regression Analysis, Systems of Ordinary Differential Equations, and Partial Differential Equations, for modeling and analysis of chemical engineering systems.

6368 Artificial Neural Networks & Fuzzy Logic **3:3:0**
Study of various Artificial Neural Network architectures for real-world applications. Massive parallel computation, fault tolerance and adaptation characteristics. Emphasis on computer simulation of ANN-architectures and their applications.

6680 Research **6:A:0**
A Ph.D. student must enroll in at least 12 hours of research courses (CHEN 6680) for conducting research project prior to admission to candidacy.

6690–6691 Ph.D. Dissertation **6:A:0**

Continuous enrollment for at least six dissertation credit hours each semester upon advancement to candidacy. Direct supervised research. Graded on a credit (CR) or no credit (F) basis. Award of credit for the final dissertation course is contingent upon successful defense of the dissertation. Minimum of 18 credit hours is required.
Prerequisite: Admission to candidacy and approval of thesis advisor. 6690 must be taken once, followed by 6691 each semester until dissertation is completed.

Civil Engineering Courses (CVEN)

5212 Civil Engineering Systems Design Project **2:0:6**

Planning, design, and analysis of a civil engineering system or project; an integrated and realistic group project is utilized which involves numerous major aspects of the civil engineering profession. Presentation of oral and written design reports.

5300 Advanced Structural Analysis **3:3:0**

Review for methods of statically indeterminate structural analysis including constant deformation, slope deflection and moment distribution; introduction of stiffness and flexibility methods using matrix algebra, theories of arches, cables, cylindrical structures using classical and energy methods. May be repeated for credit when topics vary.

5308 Cost Optimization and Scheduling Engineering **3:3:0**

Includes the mathematics of cost comparisons, profitability, productivity, and optimization with emphasis on engineering project scheduling, cost estimation, and control. May be repeated for credit when the subject matter varies.

5310 Advanced Concrete Design **3:3:0**

Analysis and design of concrete members based upon working stress and strength design methods. Consideration given to pre-stressing or post-stressing of beams and structural components. May be repeated for credit when the subject matter varies.

5313 Fluid Mechanics **3:3:0**

Fluid statics, fundamentals of fluid motion, systems and control volumes, basic laws, irrotational flow, similitude and dimensional analysis, incompressible viscous flow, boundary layer theory and an introduction to compressible flow. Vector methods will be employed.

5314 Hydraulic Engineering **3:3:0**

Design considerations of hydraulic systems including closed and open channel flow together with related hydraulic accessories. May be repeated for credit when the subject matter varies.

5317 Materials Engineering Analysis/Laboratory **3:2:3**

The nature and properties of materials used in civil engineering such as structural metals, concrete, timber, composites and bitnminous materials. The engineering application and performance of materials are emphasized. Various properties and behavior of engineering materials are investigated by laboratory experimentation.

5318 Stress Analysis and Material Systems **3:3:0**

A study of solid mechanics and/or building/hydraulic systems related to the performance of different materials such as soils, metals, timber, masonry, and composites under various loading conditions. Consideration of construction and environmental effects. Topics may include, if applicable, unsymmetrical sections, shear center, curved beams, torsion of noncircular cross sections, strain energy, virtual work, plasticity, fatigue, and introduction to the theory of elasticity. May be repeated for credit.

5320 Engineering Project Management **3:3:0**

Principles governing the effective and efficient management of engineering projects including the application of comprehensive planning, scheduling, and cost estimation procedures. Presentation of oral and written design reports.

5323 Advanced Steel Design **3:3:0**

Analysis and design of structural members using steel. Consideration is given to elastic and inelastic buckling in beams and columns due to local, flexural, torsional and torsional flexural action. May be repeated for credit when the subject matter varies.

5324 Models In Hydrological Systems

Analysis of basin hydrology, steamflow frequency, and water surface profiles, introduction to wave machines and hydrological transport processes including water quality simulation in hydrodynamic systems (oceans, estuaries, lakes/reservoirs, rivers/streams, storm water control facilities). May be repeated for credit when subject matter varies.

5325 Fundamentals of Air Pollution **3:3:0**

Pollutant sources, emissions and transport. Air pollution control methods. Particulate collection theory, gaseous pollutant removal theory. Atmospheric sampling and analysis methods. May be repeated for credit when the subject matter varies.

5326 Hydrologic and Hydrodynamic Processes **3:3:0**
Overview of hydrological models, hydrological design and hydrodynamic processes in bodies of water (rivers/streams, oceans, estuaries, inland lakes, and reservoirs); energy and momentum transfer through a water surface; standing or progressive waves; salt water and fresh water interaction; wind effects of stratification and circulations; analysis of stratified flow and density currents; selective withdrawal; turbulent wind mixing. Consideration of environmental effects. May be repeated for credit when the subject matter varies.

5327 Numerical and Computer Methods In Structures **3:3:0**
Matrix and computer methods applied to analysis and design of trusses, beams, and frames. Consideration of CAD techniques. May be repeated for credit when subject matter varies.

5328 Theory of Structures **3:3:0**
Investigation and design of facilities under static, hydraulic, dynamic, and/or hazardous loading conditions. Principles of ultimate strength and plastic design theories. Consideration of environmental effects and safety factors for various temporary and/or permanent loading situations. May be repeated for credit when the subject matter varies.

5329 Water Supply and Treatment **3:3:0**
An investigation of the chemistry of water treatment processes including the study of treatment process selection and associated design parameters.

5331 Biological Wastewater Treatment **3:3:0**
Principles of treatment for domestic and industrial wastewaters with emphasis on process kinetics and biological action.

5332 Introduction in Composite Structures **3:3:0**
Mechanics and technology of composite materials and applications of composites in structures. Structure-properties dependencies and design of composite materials. Stress and strength analysis and optimization for typical composite structures. Beams, plates and shells made from composites. Mechanics of effectively anisotropic bodies.

5338 Solid Waste Management **3:3:0**
A study of solid waste collection, transfer and disposal systems. Investigation of the reclamation of resources by multiple use, reuse and improvement of existing sources to meet quality requirements.

5340 Foundation Engineering **3:2:3**
The practice of geotechnical engineering: subsurface explorations; geotechnical analysis and design of shallow footings, deep foundations, and retaining structures; stability of earth slopes, and soil improvement.

5343 Industrial Waste Treatment **3:3:0**
Procedures for analysis of the industrial waste problem, methods of collecting experimental data and process design for required treatment. Case studies and special laboratory problems for translating experimental data to prototype design. May be repeated for credit when the subject matter varies.

5347 Statistical Principles in Engineering Systems
Review of engineering data types and its treatment/presentation for inferences. Specific topics include: descriptive statistics, probability density functions, sampling distribution, hypothesis test, confidence interval, linear and curvilinear regressions, analysis of variance, design of experiment and statistical quality control. Examples of the application of statistics in civil and environmental engineering will be emphasized.

5350 Hydraulic Engineering Systems **3:2:3**
Continuation of CVEN 3350Hydraulics I emphasizing practical design applications of basic fluid mechanics principles in fluid measurement, machinery, closed conduit flow, open channel flow and hydraulic transients. Presentation of oral and written design reports.

5351 Unit Operations of Environmental Engineering **3:3:0**
Theory of fluid and slurry movement under gravity and pressure systems, mixing processes, coagulation and flocculation of chemical treatment, separatory processes including flotation and sedimentation, and gas transfer and absorption of the biological systems. Selected laboratory assignments for model studies of these unit operations.

5355 Advanced Geotechnical Engineering **3:3:0**
Evaluation of strength parameters and compressibility of soils, elastic analysis of the stress and strain, techniques of forecasting foundation settlement, and slope stability analysis.

5381 Building Design/Construction **3:3:0**
Advanced topics in Building and/or Construction Systems. Topics may include the treatment of contaminated soils, and the effects of various static, dynamic, hydraulic, and wind loads on structural frames and foundations. Environmental, social, and safety requirements may be taken under consideration. Presentation of oral and written design reports. May be repeated for credit when topics vary.

5387 Special Topics 3:3:0
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as the demand requires. Sample topics include: (1) Kinetic theory of gases; (2) Transients in compressible flow; (3) Nonlinear vibrations; (4) Protective construction; (5) Transients in engineering systems; (6) Stagewise mass transfer; (7) Nuclear engineering; (8) Hybrid and analog computers; (9) Adaptive control; (10) Optimization techniques; (11) Sampling techniques.

5388 Special Topics 3:3:0
The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as the demand requires. Sample topics include: (1) Kinetic theory of gases; (2) Transients in compressible flow; (3) Nonlinear vibrations; (4) Protective construction; (5) Transients in engineering systems; (6) Stagewise mass transfer; (7) Nuclear engineering; (8) Hybrid and analog computers (9) Adaptive control; (10) Optimization techniques; (11) Sampling techniques.

5398 Reinforced Concrete Design 3:2:3
The design of structural concrete members based upon working stress and strength design methods. Study of standard specifications. Introduction to prestressed concrete.

5399 Structural Steel Design 3:2:3
The design of buildings and bridge components according to standard specifications. Application of load and resistance factor and allowable stress design methods. Introduction to plastic design of steel structures.

6330 Air Quality Modeling 3:3:0
Review of various air quality models. Introduction and implementation of air quality science in model simulation including the emission inventory, dynamic meteorology and chemical transport. Air quality simulation using first principle models will be emphasized.

6332 Advanced Foundation Engineering 3:3:0
Investigate practical applications of soil mechanics principals to geotechnical engineering, dewatering techniques, design and analysis of deep foundations and retaining structures.

6333 Chemical Principles of Envirorunental Systems 3:3:0
Introduction to aquatic and atmospheric chemistry, chemical kinetics and equilibrium, acid-base chemistry, chemical buffer, metal-ligand chemistry, precipitation and dissolution, redox chemistry and radical chemistry.

6336 Stormwater Management and Design 3:3:0
Introduction of stormwater quality and quantity management and simulation models (e.g., SWMM, StormCAD), introduction to the Best Management Practice and Total Maximum Daily Load for coastal areas, and design of urban stormwater system facilities, e.g., detention ponds, culverts, channel system and stormwater pipes.

6339 Hazardous Waste Management 3:3:0
The design, operation and applicability of standard destruction and detoxification technologies will be presented. The various types of incineration, thermal, biological, physical and chemical treatment methods will be included, as well as the technologies now in the later stages of research and development. Emphasis will be on applicability and functional design as opposed to detailed design.

6345 Water Quality Modeling and Monitoring 3:3:0
Introduction to water quality simulation in natural water systems, e.g., water temperate, dissolved oxygen model in lakes/reservoirs/estuaries, turbulent diffusion and dispersion in one and two dimensional systems, and chemical and biological kinetics in water quality model. Introduction to monitoring of air and water quality parameters in coastal areas, including solids, dissolved oxygen, BOD, COD, salinity, criterion pollutants and selected instrumental analysis.

6387 Hydraulics of Environmental Systems 3:3:0
Hydraulic design of municipal utilities including storm water and waste water collections systems, water distribution networks and treatment plant facilities.

6388 Computer Methods of Engineering Project Management 3:3:0
Principles governing the effective and efficient management of engineering projects including the application of comprehensive planning, scheduling and cost estimation procedures. Utilization of various computer methods and systems will be emphasized.

Electrical Engineering Courses (ELEN)

5344 Electric Power Systems Analysis I 3:3:0
A three-semester sequence, selected from: symmetrical components, impedance and fault-current calculations, load-flow studies, economic operation, stability and control, system modeling, non-fossil fuel energy conversion. Both analytical and digital-computer methods may be employed as appropriate.

5346 Digital Signal Processing 3:3:0
Sampling/reconstruction, quantization, discrete-time systems, digital filtering, Z-transforms, transfer functions, digital filter realizations, discrete Fourier transform (DFT) and fast Fourier transform (FFT), finite impulse response (FIR) and infinite impulse response (IIR) filter design, and digital signal processing (DSP) applications.

5354 Discrete Control Systems 3:3:0
Principles of digital and sampled-data control systems. Analysis of response, and stability. Analytical compensation by Z-transform and other methods. Extensive use of computers.

5362 Remote Sensing 3:2:3
Design of systems which gather and share data over geographically scattered remote locations. Real-time access, monitoring, diagnosis, and control of remote locations. Communication systems design using radio-telemetry, satellite, and dial-up networks. Data interface to the Internet. Information sharing through dynamic-web site design.

5365 Image Processing I
Twodimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques.

5373 Advanced Electromagnetics 3:3:0
Graduate-level topics in electromagnetic theory and applications. Assumes a grounding in electromagnetic fields and waves and methods for the solution of boundary value problems.
Prerequisite: ELEN 3371 or equivalent.

5383 Instrumentation 3:3:0
Unified methods for the design of signal conditioning circuits between sensors and computers. Accepted practice for sensor-based microprocessor and microcomputer data acquisition and processing systems instrumentation amplifier circuits.

5384 Virtual Systems Design 3:2:3
Design of virtual systems that replace complex hardware systems such as measurement systems, analyzers, and controllers. Object-oriented-programming (OOP) techniques that realize true representations of hardware. Design of Windows engineering applications.

5393 Introduction to VLSI Design 3:3:0
Study of the principles of basic microchip design. Use of several CAD tools, with hands-on experience in implementing Very Large Scale Integration (VLSI) circuits. Detailed study and computer simulation of MOS-capacitance models.

5395 Computer Hardware Description Languages 3:3:0
A CAD method of design of digital hardware using Computer Hardware Description Languages (CHDLs). Implementation of combinational logic units, microprocessors and microprogrammed processors.

5397 Fault Diagnosis & Fault Tolerant Design 3:3:0
Study of several test generation algorithms for combinational circuits such as Boolean Difference, D, PODEM, and FAN Algorithms. Test generation techniques for RAMS and microprocessors. Various methods for Design for testability and Fault Tolerant Design.

6313 Digital Filters 3:3:0
Introduction to digital filtering. Recursive, non-recursive filters and their design. Butterworth, chebysbev filters.
Prerequisite: Proficiency in computer programming.

6314 Computer Control and Instrumentation 3:3:0
Basic Instrumentation principles. Signal acquisition and conditioning. Computer control using digital signal processing techniques in time and frequency domains. Programming project assignments involving implementation of basic instrumentation and computer control methods.

6358 Industrial Automation and Process Control 3:2:3
Design and develop industrial automation and process control (IAPC) systems and processes. Distributed control system design, implementation of real-time process databases and man-machine interface. Study of modern techniques for process control and management. This is a graduate engineering Core course available to all engineering graduate students.

6365 Image Processing II 3:3:0
Current topics in image processing research: nonlinear and adaptive filtering, color image processing, image encoding and digital video processing.

6374 Nonlinear Optics 3:2:3
Advanced topics in Nonlinear Optics including a lab component. May be repeated for credit when subject matter varies.

6394 CAD Tools for VLSI Design
Study of the principles involved in the development of a variety of Computer Aided Tools used in the design of Very Large Scale Integrated circuits. Implementation of the tools with programming assignments.

Industrial Engineering Courses (INEN)

5300 Quality Improvement 3:3:0
Statistical methods and other Industrial Engineering analysis and design tools are used to control and improve quality and assure requirements are met. Prerequisite: INEN 3320

5303 Regression Analysis 3:3:0
Review of regression analysis; theory of least squares; multivariate analysis; theory of the general linear hypothesis model.

5305 Reliability 3:3:0
Statistical theories pertinent to solution of engineering problems in reliability; distribution and failure theory including failure rate and mean time to failure for the exponential, log normal, gamma and Weibull distributions.

5315 Industrial Management 3:3:0
Provides a foundation for becoming a manager in an industrial organization. Topics include: Strategic planning, culture change, organizational analysis and technology managemeut. Students will apply decision making methodologies to hypothetical situations. Prerequisite: Graduate Standing.

5316 Industrial and Product Safety 3:3:0
Convey an appreciotion of the social and economic impact of industrial accidents. Provide general rules and checklist to help design and maintain a safe work place. Introduces the role of government and voluntary standards in process and product design safety. Prerequisite: Work Design

5319 Design of Experiments 3:3:0
Experimental design and analysis of experiments are developed as tools of the manufacturing and process industries. Exploratory and evolutionary EVOP designs, analysis of variance ANOVA, error and regression are treated in some detail.
Prerequisite: Course in statistics or equivalent.

5320 Statistical Decision Making for Engineers 3:3:0
Analysis of data to help the engineer/executive make decisions. Evaluations of performance claims, probability distributions, hypothesis testing, ANOV, design of experiments.

5321 Quality Control Systems 3:3:0
Application of statistical methods to industrial problems; regression and correlation theory; analysis of variance; use of control charts for control of manufacturing operations.

5322 Computer Aided Manufacturing 3:3:0
Design problems in the areas of computer numerical control, robotics and computer vision as presented. Manufacturing Control Systems are discussed as they relate to a Computer Integrated Manufacturing (CIM) environment. Additional project on expert systems applications in manufacturing.

5333 Operations Research II 3:3:0
Advanced topics in operations research-linear programming, non-linear programming, advanced topics in queuing and inventory theories, sensitivity analysis and dynamic programming.
Prerequisite: ENGR 5372 or equivalent.

5345 Computer Integrated Manufacturing (CIM) 3:3:0
Advanced concepts in computer aided design and manufacturing to include geometric modeling in a 3D solids environment, analysis of engineering design problems, robotics, computer numerical control, and manufacturing control systems. Course includes a design project.

5350 Production and Inventory Control 3:3:0
Techniques for planning and controlling production and inventories. Forecasting, aggregate planning, materials requirements planning, scbeduling, project management.

5366 Advanced Engineering Economy 3:3:0
Special economic analyses based on risk, uncertainty and other probabilistic considerations. Bayesian attacks, influence of perfect information, competitive decisions and decisions under pressure.

5369 Engineering Management 3:3:0
Prepares students for a transition from engineering to management. Topics include: proposal writing, project negotiations, ethics, project management, teams and culture.

5370 Operations Research 3:3:0
An introduction to the construction of mathematical models for organizational systems to aid executives in making decisions. Linear programming, network flow programming, dynamic programming, queuing theory.

5374 Human Factors Engineering 3:3:0
Convey human factors considerations in design and research. Applications include control panels, audio and video displays, computer work stations, special accommodations.

5375 Simulation of I.E. Systems 3:3:0
Introduction to concepts of simulation modeling and analysis with application to manufacturing and service systems. Students will apply problem solving and process analysis techniques to an industrial engineering problem and propose an improved systems design.
Prerequisite: Work Design, Probability and Statistics

5376 Occupational Ergonomics 3:3:0
Application of ergonomics to the design and/or redesign of jobs, manufacturing workstations, and other work environments to achieve increased profitability and reductions in injury/illness.

5377* Energy Engineering 3:3:0
Different types of energy resources and their uses; different types of energy conversation technology such as fuel cells, thermoelectric, and solar energy conversion, and energy conservation technologies such as pinch technology and cogeneration, current and future challenges of energy generation and conservation, environmental issues such as air pollution, smog and greenhouse effects, and No emissions.
Prerequisite: Fluid Mechanics, Heat Transfer, Thermodynamics.

5379 Facilities Design
Study of concepts and methods used to design an effective facility layout and materials handling system.

5385 I.E. Design 3:1:6
Students design systems to solve a problem or problems typical of those encountered by practicing industrial engineers. Students work in teams to formulate issues, propose solutions, and communicate results in formal written and oral presentations.

6359 Computer Methods in Statistical Quality Control
Methods of dealing with Statistical Quality Control problems such as control charts, test, tests of hypothesis, analysis of variance, regression analysis and design of experiments will be employed using one or more software packages. Emphasis will be placed on problem definition, model selection and interpretation of output for decision making and process improvements.
Prerequisite: A course in probability and statistics

Mechanical Engineering Courses (MEEN)

5304* Advanced Engineering Analysis
The course covers selected topics of advanced engineering mathematics and their applications to engineering. The topics include analytical and numerical solutions of ordinary and partial differential equations, vector differential calculus and integral theorems, probability and statistics, and optimization.

5309 Problems in Design and Finite Analysis 3:3:0
Advanced techniques and analysis involving microcomputers, finite elements, finite differences. May be repeated for credit when the subject matter varies.

5315 Theory of Elasticity
General analysis of stress and strain, equations of equilibrium and compatibility, stress and strain relations, two dimensional stress problems, elastic energy principles, thermoelastic problems. May be repeated for credit when the subject matter varies.

5335 Mechanical Vibrations 3:3:0
Topics in mechanical vibrations including an introduction to tbe theory of vibrations, mechanical vibration analysis methods using simulationbased design, mechanical vibration measurement and monitoring, interpretation of vibration measurements data and other mechanical vibration topics as appropriate.

5356 Process Modeling with Neural Networks 3:3:0
Multivariate Statistics, Genetic Algorithm, and empirical modeling tools such as Partial Least Squares, Monotonic/Bounded Derivative Neural Network, and Inferential Property Estimation using state-of-the-art computer software. These modeling tools take advantage of the large amount of process data now available in process plants for data mining.

5367* Intro to CFD 3:2:3
Introduction to basic concepts underlying computational fluid dynamics (CFD) including derivation of governing equations, discretization methods, grid generation, solution algorithms, numerical solution methods, error prediction, and interpretation of numerical results. A commercial CFD software package, CFX, is use to solve practical engineering fluid flow problems.
Prerequisite: Fluid Mechanics, Heat Transfer, Numerical Methods, MEEN 5366.

5368* Combustion Tbeory 3:3:0
Fundamental principals of combustion theory and their applications in different engineering problems such as furnaces, automotive engines, gas turbines, and rockets. Topics covered include thermochemistry, fuels, chemical kinetics, conservation equations for reacting flows, premixed and diffusion flames, droplet burning, and pollutant emissions, introduction to numerical modeling of combustion and combustion measurement techniques. Prerequisite: Fluid Mechanics, Heat Transfer, Thermodynamics.

5389 CAD 3:3:0
Introduction to ProEngineer. The analysis and the utilization of state of the art computer hardware and software to solve the problems associated with the utilization of computers in both graphics and engineering design problems.
Prerequisite: Graduate standing in the College of Engineering and consent of the instructor.

College of Fine Arts and Communication

The College of Fine Arts and Communication offers programs of study leading to the Master of Arts degree in Visual Art, with either a Studio Art or Art History emphasis; a Master of Science Degree in Audiology and in Speech-Language Pathology; a Master of Science Degree in Deaf Studies/Habilitation; a Master of Music Degree; a Master of Music Education Degree; a Doctor of Education Degree in Deaf Education; and a Doctor of Audiology. The college also supports some Master of Education degrees with courses from the Department of Art. Persons seeking admissions to these programs must meet the requirements specified by the College of Graduate Studies and the individual department. Admission to a degree program is not an admission to candidacy. Each master's degree program is designed to help students deepen and expand their knowledge and provide them with the opportunity to develop skills and concepts which may be applied to the professional objectives associated with their fields of study. The Doctor of Education in Deaf Education degree program is designed to prepare professionals to serve in leadership positions in the administration of schools and service programs for the deaf/hearing impaired and/or as faculty for universities with Deaf Education training programs.

Department of Art

The Department of Art offers a Master of Arts in Visual Art with an emphasis in either Studio Art or Art History. The Studio Art emphasis offers focused study opportunities in one of eight studio areas. Graduate studios are available. Of particular note, the Art History emphasis offers handson research opportunities working with the 19th-century academic paintings housed in the Eisenstadt collection. Part of the permanent holdings of the Dishman Art Museum, the Eisenstadt collection features works by the American landscapist Thomas Moran and the English portraitist Sir Thomas Lawrence. Both study options provide students with the opportunity to focus and develop skills and abilities in a selected area of study.

Students seeking admission to the degree program must meet the general requirements for admission outlined in this bulletin.

Degree Requirements

Studio Art Emphasis

The Master of Arts degree in Visual Art with a studio art emphasis requires 36 semester hours including 15 hours in the area of specialization, 9 hours of core courses, 6 hours of electives, and 6 hours of thesis. Specialization may be in Fibers, Ceramics, Drawing, Painting, Photography, Printmaking, Sculpture, or Visual Design and Electronic Media. The core program for studio art includes 3 hours of Art History, 3 hours of Seminar in Art Criticism and Aesthetics (5318), and 3 hours of Current Issues and Trends (5301).

Applicants to the degree program in studio art must submit a slide portfolio of 15 works, three letters of recommendation from undergraduate professors, and a letter of intent stating professional objectives to the Department of Art. The slide portfolio should demonstrate competency in the medium of specialization they intend to pursue for the degree. A graduate faculty committee will review applications and portfolios. Applicants will be accepted according to the quality and maturity of the submitted work. Undergraduate course work may be required if the applicant has not earned a Bachelor of Fine

Arts degree and/or the entrance portfolio does not demonstrate the knowledge, skills and abilities prerequisite to successful graduate study.

Art History Emphasis

The Master of Arts degree in Visual Art with an art history emphasis requires 36 semester hours of graduate study including 15 hours in art history, 9 hours of core courses, 6 hours of electives, and 6 hours for writing and defending a thesis. All graduate study must be within the areas of specialization offered by the program. The core program for art history includes 3 hours of Current Issues and Trends (5301), 3 hours of Seminar in Art Criticism and Aesthetics (5318), and 3 hours of Methodology in Art History (ARTS 5308). Reading competency in an approved foreign language to be determined by examination or course work will be required. Graduate courses in the literature of a foreign language, history, or English can be taken as electives and may be required.

Applicants to the degree program with an art history emphasis must submit undergraduate transcripts, a term paper indicating research and writing skills, and three letters of recommendation from undergraduate professors. A graduate faculty committee will review applications and may require undergraduate foundation courses in art history or research methods before admitting the applicant.

Graduate Faculty

Professor Lynne Lokensgard
Art History
Associate Professor Kurt Dyrhaug
Visual Media/Studio Art
Professor Donna M. Meeks
Studio Art
Professor Meredith Jack
Studio Art
Professor Keith Carter
Walles Chair, Visual and Performing Arts Photography
Associate Professor Prince Thomas
Visual Media/Photography
Associate Professor Ann Matlock
Art Education/Fibers

Art Courses (ARTS)

The following graduate courses may also be taken to satisfy the specialization area requirements of some Master of Education degree programs with prior approval from the Department of Art.

5301 Issues and Trends in Contemporary Art 3:3:0
A paradigm study of current values, practices and beliefs of the art profession. Exploration of the origins and directions of artistic thought in the 20th century with emphasis on the interaction between the artist and society, the effects of that contact on artistic expression and the nature of the imagery that results from that contact.

5305 Problems in Photography 3:3:3
Advanced research in photographic technique and photography as an art medium. May be repeated for credit.

5308 Methodology in Art History 3:3:0
Introduction to methods of art historical research. Special research projects will be required.

5318 Seminar in Art Criticism and Aesthetics 3:3:0
An historical survey of significant written works in the areas of aesthetics and art criticism that have reflected and/or shaped artistic practice of a given period.

5323 Problems in Visual Media 3:3:3
Experimental research in the uses of computers as image making tools. Development of personal imagery through electronic media. May be repeated for credit.

5325 Problems in Drawing 3:3:3
Independent directed study in drawing. May be repeated for credit.

5326 Problems in Painting 3:3:3
Directed independent research leading to the development of a personal direction and statement within painting. May be repeated for credit.

5328 Study in 19th Century Symbolist Art 3:3:0
A study of the Symbolist Movement in European art from 1885-1910. A graduate research project or paper will be required.

5335 Problems in Fiber Crafts 3:3:0
Directed independent research and experiment in the area of fiber crafts. Topics vary by semester. May be repeated for credit.

5338 Study in Renaissance Art 3:3:0
A study of Renaissance art in Europe from the 14th through the 16th centuries. A graduate research project or paper will be required.

5348 Nineteenth Century European Art 3:3:0
A study of the foundations of abstractionism from NeoClassicism through PostImpressionism. A graduate research project or paper will be required.

5358 Research in Art History 3:3:0
Directed research in selected topics in Art History. May be repeated for credit.

5365 Problems in Printmaking 3:3:3
Directed independent research and experimentation in methods of printmaking. May be repeated for credit.

5368 Contemporary Art 3:3:0
A critical and historical analysis of painting from 1900 to the present. A graduate research project or paper will be required.

5378 Primitive Art 3:3:0
A study of prehistoric and contemporary tribal art. A graduate research project or paper will be required.

5385 Problems in Sculpture 3:3:3
Directed independent research and experimentation towards the development of a personal direction and statement in sculpture. May be repeated for credit.

5386 Problems in Ceramics 3:3:3
Directed independent research and experimentation with technical and aesthetic issues in ceramics. May be repeated for credit.

5388 Modern Architecture and Sculpture 3:3:0
A study of the development of modern architecture and sculpture from the late nineteenth century to the present. A graduate research project or paper will be required.

5395 Directed Individual Study in Studio Art 3:3:3
Individual study at the graduate level of a specific area within the visual arts field. May be repeated for credit when tbe subject varies.
Prerequisite: Permission of instructor.

5398 History of Photography 3:3:0
A study of the development and evolution of photography from its invention in 1839 to the present. A graduate research project or paper will be required.

5390-5391 Thesis
Course requirements listed under Thesis Requirements in this catalog. Must complete both for required 6 credits.

Department of Communication Disorders & Deaf Education

The Department of Communication Disorders and Deaf Education offers training and Master of Science degrees in Speech-Language Pathology and Deaf Education. In addition, a Doctor of Education (Ed.D.) degree in deaf studies/education and a Doctor of Audiology (Au.D.) are offered.

Master of Science Degree in Speech-Language Pathology

Lamar University programs in audiology and in speech-language pathology hold national certification by the Council on Academic Accreditation (CAA) for the American Speech,

Language, Hearing Association (ASHA). Students completing a master's degree in speech-language pathology typically meet the national certification standards of ASHA as well as requirements for state license. Speech-language pathology graduates who meet ASHA and state certification standards are also considered eligible for employment as speech-language pathologists in public schools. Depending on the student's undergraduate program of study, the typical 36-semester-hour master's degree may need to be expanded to accommodate ASHA certification and state licensing requirements. Speech-language pathology students must complete a minimum of 375 hours of supervised clinical practicum, part of which may be accumulated at the undergraduate level.

Graduates may apply to ASHA for the Certificate of Clinical Competence (CCC) in speech-language pathology. This national certification requires the completion of specified course work and clinical practice. Students seeking ASHA certification should obtain a copy of ASHA regulations from a faculty advisor early in their training program.

ASHA standards mandate the passing of national qualifying board examinations for prospective speech-language pathologists. Master's students typically take these examinations during their final semester.

Master of Science Degree in Deaf Education

Our deaf education program is certified by the national Council on Education of the Deaf (CED) and our graduates are eligible for professional certification through that accrediting agency. In addition, graduates may apply for state license as a teacher of deaf children. The program welcomes deaf graduate students and many of our faculty are themselves deaf. Program graduates are expected to be skilled in sign language and must complete a minimum of 300 hours of supervised practicum with deaf children.

Doctor of Education Degree in Deaf Studies/Education

Lamar University is one of only a few universities in the U.S. offering a doctoral degree in Deaf Studies or Deaf Education. Lamar is addressing a critical national and international shortage of doctoral trained educators of the deaf. Graduates of the doctoral program take leadership roles in schools for the deaf or become teacher trainers in university settings. Both hearing and deaf applicants are accepted.

Doctor of Audiology

The Doctor of Audiology (Au.D.) degree is the newest doctoral degree within the Department of Communication Disorders and Deaf Education. The Au.D. is the entry-level degree to practice audiology beginning in 2007. The degree currently requires a minimum of 88 didactic course credits and 66 academic credits of clinical practicum and externship. Students must complete a minimum of 2200 hours of supervised clinical practicum, the majority of these hours being obtained during a full-time externship. Students completing the doctoral degree typically meet the national certification standards of the American Speech, Language and Hearing Association (ASHA) as well as requirements for state license. Graduates may apply to ASHA for the Certificate of Clinical Competence (CCC) in Audiology. This national certification requires the completion of specified course content and clinical practice. ASHA standards mandate the passing of a national qualifying board examination for prospective practicing audiologists. Lamar University's Au.D. program will require a minimum of four full years beyond a bachelor's degree in communication disorders. Those students with an undergraduate degree in another discipline will be required to complete foundational undergraduate courses before applying for full admis-

sion into the Au.D. program. Typically, these leveling courses require a minimum of a fall-spring semester sequence, but may vary with the undergraduate background of the student. Lamar University's Au.D. program requires a candidacy research project, comprehensive examinations, and a full-time externship. Our academic and clinical program is designed to prepare audiologists for the full breadth of the Audiology Scope of Practice, including medical, rehabilitative, educational and private practice settings.

Students in both the Ed.D. program and the Au.D. program should refer to their doctoral handbooks for additional information regarding specific department policies and procedures for the two doctoral degrees.

Admission

Applicants for admission to master's degree programs in the Department of Communication Disorders and Deaf Education (CMDS), except for students who are deaf (see below), are ranked for admission based on the following criteria.

1. A formula established by the Graduate Council. The formula is calculated based on (GPA x 200) + Verbal GRE + Quantitative GRE score. The formula score must be greater than or equal to 1350.
2. relevance of the undergraduate training, and
3. letters of support

In addition, applicants for the deaf education program must submit an essay which includes their philosophy of education and professional goals. The essay will be used to identify writing ability required for successful completion of their graduate program.

Applicants for admission to the doctoral program in deaf studies/education, except for students who are deaf (see below), are ranked for admission based on the following criteria.

1. Must have a master's degree in deaf education or related field.
2. Must have completed three years of professional experience with deaf or hearingimpaired children or adults.
3. A formula calculated based on (GPA x 200) + Verbal GRE + Quantitative GRE score that is greater than or equal to 1600.

Deaf applicants for the master's and doctoral degrees in deaf studies/education who have a severe to profound hearing loss acquired congenitally or prelingually will be considered on an individual basis and need not submit GRE scores. In lieu of the GRE score these deaf applicants must submit aboveaverage performance intelligence scores (preferably the performance scale of the WAISR) and university grades, pass an interview with our deaf education faculty, and demonstrate adequate literacy and communication skills for graduate training. Literacy in this case includes both the reading and writing of English, but not necessarily equivalent to hearing norms. Communication skill may be demonstrated in sign and/or speech.

Applicants for admission to the doctoral program in Audiology are ranked for admission based on the following criteria.

1. Must have a bachelor's degree in communication disorders or equivalent coursework.
2. Must meet a formula established by the Graduate Council as detailed above
3. Must have a GPA of 3.0 or higher in communication disorder coursework
4. Must submit letters of recommendation
5. Must submit an essay which discusses interest in Audiology and professional goals.

Graduate Faculty

Professor Emeritus Robert F. Achilles
Speech-Language Pathology
Professor Jean Andrews
Deaf Education
Instructor Edwin Cancel
Deaf Education
Instructor Melissa DeLana
Deaf Education
Assistant Professor Vickie Dionne
Audiology
Assistant Professor Mary Ann Gentry
Deaf Education
Associate Professor Richard Loghan
Speech-Language Pathology
Associate Professor Sumalai Maroonroge
Audiology
Professor Gabriel A. Martin
Deaf Education
Instructor Alana Mantie-Kozlowski
Speech-Language Pathology
Professor Emeritus Otis T. Pederson
Audiology
Assistant Professor Laura Polich
Audiology
Associate Professor Zanthia Smith
Deaf Education
Instructor Jeri Sullivan
Speech-Language PathologyAssociate
Professor Dorothy Sutherland
Speech-Language Pathology

Communication Disorders and Deaf Education Courses (CMDS)

5250 Seminar in Communication Disorders Research
Provides direct contact with research faculty during the research project development.

5301 Aphasia and Neurogenic Disorders **3:3:0**
Theory and treatment for organic speech disorders of neurologic origin.

5302 Stuttering **3:3:0**
Nature, evaluation and treatment of fluency disorders.

5304 Language Based Disorders of SchoolAged Children **3:3:0**
Assessment and intervention procedures for elementary and secondary students with language and learning disabilities.

5305 Counseling in Communication Disorders **3:3:0**
Counseling procedures in communication disorders, for clients and their families.

5306 Language Disorders of Young Children **3:3:0**
Assessment and intervention procedures for young children with language disorders includes infants through preschoolers.

5307 Articulation Disorders **3:3:0**
Nature, evaluation, and treatment of articulation disorders.

5308 Neuropathologies II **3:3:0**
The diagnosis and treatment of disarthria, apraxia, and dysphagia.

5309 Advanced Clinical Practicum **3:3:10**
Advanced classroom practicum, diagnostics and therapy. May be repeated and must be taken each semester.

5310 Multicultural Issues and Deafness
To provide theory and practical techniques for identifying and teaching minority-deaf children and their parents.

5311 American Sign Language V **3:3:0**
Advanced linguistic study of American Sign Language.
Prerequisites: ASL I, II, III, and IV, or by Department Chair approval.

5312 American Sign Language IV **3:3:0**
Advanced linguistical studies of American Sign Language.

5313 Speech and Audiology for Deaf Educators **3:3:0**
This course reviews basic anatomy and physiology of speech and hearing mechanisms and shows deaf educators how to work with professionals and parents of deaf and hardofhearing children.

5315 ASL/English Bilingual Assessment and Deafness **3:3:0**
A survey of assessment of deaf students in educational achievement, and language and literacy using ASL/English bilingual methodology.

5316 ASL/English Bilingual Education and Deaf Students 3:3:0
American Sign Language (ASL) and English language development for deaf students including ASL/English bilingual theories and practices.

5317 Modern Math and Science Instruction for the Deaf 3:3:0
Provide current theory and practical techniques for teaching math and science to deaf children.

5318 Special Audiological Tests 3:3:0
Test batteries for peripheral vs. Central site of lesion, nonorganic, electrophysiological assessment.

5319 Introduction to Audiology Studies 3:3:0
Overview of audiologic principles and clinical procedures as they are applied to clinical practicum. Professional expectations and ethical practices are discussed.

5320 Pediatric Audiology 3:3:0
Hearing evaluation in the young patient, method and theory.

5321 Research in Communication Disorders
Research design data analysis, and report writing pertinent to basic science and behaviors in communication disorders.

5322 Medical Audiology 3:3:0
Study of otologic pathology and influence upon auditory/vestibular systems.

5323 Electrophysiology I 3:3:0
Current electrophysiological auditory assessment: includes theory, instrument, techniques and procedures.

5324 Hearing Aids 3:3:0
Pros and cons of amplification theory and practicum.

5325 Audiology and Deafness
Provides development in anatomy or the ear, sound and its measurement, testing and listening devices for teachers of the deaf in classroom settings.

5326 Psychology of the Deaf 3:3:0
Psychological, emotional, and social impact of deafness.

5327 Advanced Aural Rehabilitation 3:3:0
Speechreading, auditory training, amplification and counseling for the aurally impaired.

5328 The Multidisabled with Hearing Problems 3:3:0
Prevalence, demographics and etiologies of hearing disorders with other disabilities (blindness, motor, emotional, mental, or orthopedic). Includes methods, curricula, and materials.

5329 Law and the Deaf 3:3:0
Legislative and judicial decisions that influence educational programs for the hearing impaired/deaf.

5332 Industrial Audiology
Interpretation and role of the audiologist in the OSHA Hearing Conservation Act with emphasis on noise level assessment and abatement.

5336 Electrophysiology II
Clinical assessment and rehabilitation of vestibular disorders including but limited to ENG, rotary chair, dynamic posturography.

5337 Otoacoustics 3:3:0
Theory, research and assessment procedures related to inner ear emissions. Clinical applications to the diagnosis of ear disorders are presented.

5338 Hearing Aids II
Operation and selection criteria for programmable and digital amplification will be addressed. Practicum in real ear measurements and assistive listening devices and cochlear implants is provided.

5340 Adult/Geriatric Aural Rehabilitation 3:3:0
Theories, methods, and techniques in the management of hearing loss and subsequent communication difficulties in the adult and elderly populations.

5341 Pediatric/SchoolAge Aural Rehabilitation 3:3:0
Philosophy, methods, and techniques in the management of the young and schoolaged child with hearing loss. Audiologic issues related to amplification, development of communication skills, educational placement, classroom acoustics, and legal regulations will be discussed.

5346 ASL/English Bilingual Literacy and Deafness 3:3:0
A survey of theories and methods in teaching English reading to deaf students using ASL/English bilingual techniques.

5350 Individual Study 3:A:0
Independent study of special problems in communication disorders.

5351 Individual Study
Independent study of special problems in communication disorders.

5356 Instructional Design in the Deaf Classroom **3:3:0**
Cognitive, linguistic and social development of deaf individuals from infancy to adulthood and the impact on the classroom.

5390-3391 Thesis **3:A:0**
Prerequisite: Approval of Graduate Advisor. Must complete both for required 6 credits.

5403 Voice Disorders and Cleft Palate
Nature, etiology and treatment of disordered phonation and resonance imbalance secondary to laryngeal malfunction and craniofacial anomaly.

Doctoral Core Courses

6101 Deaf Studies Lecture Series **1:3:0**
Experts in the field of deafness will lead a seminar on the current research in the field.

6150 Professional Seminar **1:3:0**
Special topics class for doctoral students in the Department of Communication Disorders and Deaf Education.

6201 Vestibular Rehabilitation **2:3:0**
Assessment and performance of body movement techniques to alleviate dizzy symptoms of the patient with benign proxsysmal positional vertigo (BPPV) and development of practice routines for long term patient care.

6217 Candidacy Paper (Presentation) **2:3:0**
Continuation of CMDS 6317 culminating in a written and oral presentation of the finished research project to faculty and peers. Successful completion is a partial requirement for the doctoral degree.

6301 History & Sociology of Deaf Culture **3:3:0**
Life/culture of deaf people via history, art, literature, mythology, and performance. Using an anthropological definition of "culture", the course examines the linguistic variations and modes of cultural transmission across generations and the demographics and characteristics of the community.

6302 Law and Deafness **3:3:0**
Legislative and judicial decisions that influence educational programs for the hearingimpaired/deaf.

6303 ASL Literature, Visual and Media Arts **3:3:0**
A course in Deaf Culture themes within short stories, poetry, drama, humor, art, movies.

6304 Curriculum, Pedagogy, Computers and Deafness **3:3:0**
Comparative analysis, design, and implementation of educational curricula for deaf/hardofhearing students, the curricular relation to current pedagological theories, and the utilization of computer technologies for the deaf education classroom.

6305 Psycholinguistics and Deafness **3:3:0**
The psycholinguistics and linguistic development of deaf children of various linguistic and cultural backgrounds and the effects of communication modality differences upon development. Emphasis upon the bilingual/bicultural nature of these acquisition patterns will be included.

6307 Deaf Education Administration **3:3:0**
Professional placement of the doctoral candidate in educational/administrative locations for field experience and a seminar including problemproject discussion on issues of deaf education program management.

6308 Cognitive, Psycho-social Development and Deafness **3:3:0**
Historical review of the way intellectual abilities of the deaf were viewed, current data on cognitive and intellectual abilities, psychosocial development of deaf persons and appropriate assessment tools will be covered.

6309 Advanced Experimental Design **3:3:0**
A study of research procedures and statistical techniques used in the behavioral sciences and education.

6310 ASL/English Bilingual Education and Deaf Students **3:3:0**
Applied research in American Sign Language (ASL) and English language development including ASL/English bilingual theories and practices.

6311 ASL/English Bilingual Literacy and Deafness **3:3:0**
Applied research in the theories and methods in teaching ASL and English literacy to Deaf students using ASL/English bilingual techniques.

6312 ASL/English Bilingual Assessment and Deafness **3:3:0**
A survey of assessing deaf students in educational achievement and language and literacy using ASL/English bilingual methodology.

6313 Proposal Writing **3:3:0**
The essentials of dissertation proposal and grant proposal writing.

6314 Ethical and Academic Duties in Higher Education 3:3:0
A survey of Academic Freedom vs. Academic Responsibility for university faculty. The essentials for ethical practices in higher education.

6315 Statistics 3:3:0
Theory and application of experimental design principles and statistical methods as they relate to research in the audiologic clinical setting.

6316 Psychoacoustics 3:3:0
Physiologic bases of auditory perception and corresponding behavioral responses, including developmental and cognitive aspects of speech perception.

6317 Candidacy Paper (Research) 3:3:0
Development and implementation of a research project in the third year, culminating in enrollment in CMDS 6217 and the presentation of the project results.

6318 Cochlear Implants 3:3:0
Theoretical and applied principles in determining candidacy, in selection of and programming of multiple types of cochlear implants. Processor manipulations, auditory training, and speech and language learning in populations using implantable devices are discussed.

6319 Advanced Clinical Practicum 3:3:0
Audiological practicum performed for the purpose of experience and accumulation of patient contact hours in all aspects of hearing assessment, hearing aid evaluation and fitting, and advanced diagnostic tools. Must be taken multiple semesters until student achieves competency level for externship. All hours must be obtained under the supervision of an ASHA certified audiologist.

6320 Auditory Processing Disorders 3:3:0
Theory and diagnostic procedures used to evaluate children and adults who have symptoms associated with auditory processing disorders. Management and treatment techniques demonstrated and discussed.

6324 Counseling and Supervision in Audiology 3:3:0
Theory and techniques in counseling individuals with hearing loss and families according to the Audiology scope of practice. Special education, vocational and emotional issues associated with hearing impairment are discussed. Counseling principles and techniques will be related to professional supervision.

6332 Business Audiology 3:3:0
Management principles, procedures and techniques for developing and maintaining an Audiology practice and delivery of hearing health services. Legal and ethical issues in practice management are discussed.

6333 Pharmacology 3:3:0
General principles of pharmacology related to communicative function. Drug interactions and ototoxic conditions that lead to hearing loss are emphasized.

6334 Differential Diagnosis in Audiology 3:3:0
Analysis and integration of anecdotal, subjective and objective information to form a meaningful audiometric interpretation of hearing disorders with appropriate intervention strategies.

6339 Externship in Audiology 3:3:0
Practicum involving a full time placement in an external site after admission to candidacy. Must be taken more than one semester.

6350 Seminar
Special study of a contemporary issue. Complement to Doctoral course requirements.

6351 Individual Study
Independent study of special problems in Deaf Studies/education.

6390 Doctoral Disseration – Deaf Education
Prerequisite: Approval of doctoral advisor.

6391 Doctoral Dissertation – Deaf Education
Prerequisite: Approval of doctoral advisor.

Additional hours are required in Statistics/Research as well as Cognate areas and Electives to meet full doctoral hour requirements (60 hours total).

Department of Music, Theatre and Dance

The Department of Music, Theatre and Dance offers the following graduate degrees: the Master of Music in Performance, the Master of Music Education, and the Master of Science in Theatre. The Music degrees are designed to help performers and music educa-

tors improve skills and develop new concepts which may be applied to their particular fields of endeavor. Persons seeking admission to these degree programs must meet the general requirements for admission which are outlined elsewhere in this catalog. Generally, an applicant must also hold a bachelor's degree in music.

Students who did not graduate from Lamar University must take a music theory placement examination. Applicants for the graduate degree in performance must audition for the major professor.

The Master of Science in Theatre is designed to help performers and technicians increase their skills and study new concepts in their perspective specialization. Persons seeking admission to this degree must meet the general admission requirements as outlined elsewhere in this catalog. It is necessary for an applicant to hold a bachelor's degree in theatre or a compatible field.

Music Degree Requirements

Candidates for master's degrees in music must meet all general degree requirements of the College of Graduate Studies as listed elsewhere in this catalog. The Master of Music in Performance requires 30 semester hours, including 12 hours in the applied major, six in music literature, six in music theory, and six in music education. In addition, a public recital and either a research paper or lecture recital are required. Voice majors must show proficiency (to be determined by the Department of Music) in German, French and Italian diction prior to entering this degree program.

The Master of Music Education degree requires 36 semester hours, including 18 in music education, six in music literature, six in music theory, and six in thesis. Two additional courses in music education may be substituted for the thesis, and six hours of applied music may replace two music education courses.

All degree candidates must take MUED 5320 (Seminar in Special Problems) and pass a final oral examination before a degree can be granted. The director of graduate music studies will serve as the general advisor of all graduate students in music. A committee of three graduate faculty members will also serve in an advisory capacity and administer the final oral examination.

Theatre Degree Requirements

The Master of Science degree in Theatre is a highly individualized program. Candidates for the degree must meet all general degree requirements in the College of Graduate Studies as listed elsewhere in this catalog. The student must complete a course load of 36 semester hours including 18 hours in a specialized area, 12 hours in practical individual studies, and 6 hours in a related elective (music, dance, art or philosophy). Six hours of thesis or a two semester major project may be substituted for the 6 semester hours of fine arts or philosophy electives.

The student will choose from the following areas of specialization: technical production (set, costume or lighting design), acting/directing, or theatre management. Matching the student's needs with a practical and viable degree plan is an excellent format for the student seeking a practical or education oriented degree in theatre.

Graduate Faculty

Professor Harry Bulow
Music Education
Professor Robert Culbertson
Brass and music education, Graduate Advisor
Professor Wayne Dyess
Brass, music education
Professor Kim Ellis
Woodwinds and music history
Associate Professor Kurt Gilman
Strings
Associate Professor Charlotte Mizener
Elementary Music Education
Professor Adonia Placette
Theatre
Associate Professor Nick Rissman
Theory and composition
Professor James M. Simmons
Woodwinds and music education
Professor Russ Schultz
Brass and music history

Applied Music (MUAP)

5210, 5220, 5230 Graduate Applied Music 2:2:0
For music education majors only. Graduate applied music in any instrument category, including composition. No more than six hours may be applied toward graduation in the music education degree.

5410, 5420, 5430 Graduate Applied Music 4:4:0
Graduate applied music in any instrument category, including composition. No more than 12 hours may be applied toward graduation in the Master of Music degree.

Music Education (MUED)

5310 Microcomputer Applications in Music 3:3:0
A study of microcomputers and music-related software, especially in the area of computer-assisted marching band charting and administrative duties.

5320 Seminar in Special Problems 3:3:0
Research problems of special interest to students whose major emphasis is on the graduate field of music. Research paper required.

5330 Basic Concepts in Music Education 3:3:0
The historical, philosophical and psychological bases of music education.

5340 Supervision of Music 3:3:0
Supervision of public school music programs, with emphasis on leadership, instruction, public relations and problems in scheduliug and finance.

5370 Advanced Instrumental Conducting 3:3:0
Advanced interpretive problems and rehearsal techniques related to the conducting of various types of band and orchestral music.

5390 Advanced Vocal Methods 3:3:0
The principles and techniques of teaching vocal music.

Music Literature (MULT)

5360 Survey of the Baroque Era 3:3:0
Comprehensive study of the period, beginning with the transition to Baroque, c. 1580, and ending c. 1750. Emphasis on advances in musical form, stylistic developments and performance practices.

5370 Survey of the Classic Era 3:3:0
Comprehensive study of the period, beginning with the transition to classicism, c. 1730, and ending c. 1827. Emphasis on advances in the musical form, stylistic developments and performance practices.

5380 Survey of the Romantic Era 3:3:0
Comprehensive study of the period, beginning with the transition to Romanticism, c. 1815, and ending c. 1910. Emphasis on advances in musical form, stylistic developments and performance practices.

5390 Twentieth Century Music 3:3:0
A survey of major composers and schools of composition from Debussy to the present.

Music Theory (MUTY)

5350 Twentieth Century Harmony 3:3:0
The analysis and writing of music based on twentieth century harmonic techniques and devices.

5360 Pedagogy of Theory 3:3:0
The principles and techniques of teaching the various branches of music theory, including principles of learning, history of theory, critical study of appropriate texts and supervised teaching of music theory classes.

5370 Analytical Techniques 3:3:0
Traditional and contemporary approaches to the visual and aural analyses of music from all periods.

Music (MUSI)

5300 Special Projects in Music Education 3:A:0
Individual projects for students with specialized needs in the music education area.
Prerequisite: Consent of Department Chair.

5310 Special Projects in Music Literature 3:A:0
Individual projects for students with specialized needs in the music literature area.
Prerequisite: Consent of Department Chair.

5320 Special Projects in Music Theory 3:A:0
Individual projects for students with specialized needs in the music theory area.
Prerequisite: Consent of Department Chair.

5390-5391 Thesis
Prerequisite: Approval of graduate advisor.

Theatre Courses (THEA)

5300 Theatre Management
An indepth study of working on the business side of managing a theatrical house. The course will follow the conception of a theatre through all of the development stages of fund raising, grant writing, publicity and everyday financial workings.

5310 Problems & Projects in Theatre
Individualized instruction or supervised projects in the various areas of the theatre. May be performance or technically oriented. May be repeated for credit.

5325 Directed Studies
Individual instruction in theatre genres, styles and periods through research and performanceoriented projects.

5330 Advanced Scenic Construction
Advanced course in scenic construction techniques and principles. Handson experience in University productions.

5340 Media Performance
A split course for those interested in oncamera and offcamera work. Half of the semester will focus on the offcamera technology and the other half on the oncamera performance techniques.

5349 Costume Design
Advanced study of principles and practices of costume design. Emphasis on drafting and historical accuracy.

5350 Theatre Individual Study
Individual study of special problems in theatre under faculty guidance.

5370 Acting IV Acting Theories
Detailed study of period styles and techniques for acting.

5371 Directed Theatre Activities
A "howto" course on the organization and production of a variety of theatrical activities. Covers the areas of fund raising, publicity, promotion, script and technical requirements. Each student will be required to participate in an internship program at an assigned theatre during the semester or as arranged.

5380 Advanced Directing
Application of the principles and practices of play directing for the graduate student. Production work is required outside of class.

5390-5391 Thesis
Prerequisite: Approval of graduate advisor.

5399 Summer Repertory Theatre
Participation in a variety of shows during the summer session to enable the student to work in a professional repertory atmosphere.

APPENDIX A

Texas Common Course Number Cross-Reference

ACC 231	ACCT2301	AM 3262	MUAP3249	ART 239	ARTS2379
ACC 232	ACCT2302	AM 3263	MUAP3253	ART 3199	ARTS3199
ACC 331	ACCT3310	AM 3271	MUAP3205	ART 3303	ARTS3303
ACC 332	ACCT3320	AM 3273	MUAP3201	ART 3313	ARTS3313
ACC 333	ACCT3330	AM 3281	MUAP3281	ART 3315	ARTS3315
ACC 334	ACCT3340	AM 3411	MUAP3409	ART 3316	ARTS3316
ACC 338	ACCT3380	AM 3415	MUAP3429	ART 3317	ARTS3317
ACC 339	ACCT3390	AM 3417	MUAP3438	ART 3323	ARTS3323
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ACC 431	ACCT4310	AM 3423	MUAP3441	ART 3326	ARTS3326
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AM 1223	MUAP1241	AM 541	MUAP5410	ART 4303	ARTS4303
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AM 1257	MUAP1213	ANT 232	ANTH2372	ART 4328	ARTS4328
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AM 1281	MUAP1281	ART 132	ARTS1317	ART 4348	ARTS4348
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AM 3203	MUAP3225	ART 134	ARTS1312	ART 4355	ARTS4355
AM 3211	MUAP3209	ART 135	ARTS1301	ART 4358	ARTS4358
AM 3215	MUAP3229	ART 139	ARTS2356	ART 4363	ARTS4363
AM 3217	MUAP3237	ART 231	ARTS2323	ART 4368	ARTS4368
AM 3221	MUAP3217	ART 232	ARTS2324	ART 4373	ARTS4373
AM 3223	MUAP3241	ART 233	ARTS2311	ART 4375	ARTS4375
AM 3231	MUAP3221	ART 234	ARTS2326	ART 4376	ARTS4376
AM 3241	MUAP3269	ART 235	ARTS1303	ART 4378	ARTS4378
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CJ 331	CRIJ3310
CJ 3310	CRIJ3309
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ECO 336	ECON3306
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EE 4309	ELEN4342
EE 431	ELEN3322
EE 432	ELEN4323
EE 436	ELEN4351
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EE 4392	ELEN4392
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EGR 114	ENGR1174
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EGR 237	ENGR2377
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PHY 247	PHYS2425	PSY 430	PSYC4300	SOC 438	SOC14380
PHY 248	PHYS2426	PSY 4301	PSYC4301	SOC 439	SOCI4390
PHY 331	PHYS3310	PSY 431	PSYC4310	SPA 131	SPAN1313
PHY 335	PHYS3350	PSY 432	PSYC4320	SPA 132	SPAN1314
PHY 338	PHYS3380	PSY 436	PSYC4360	SPA 231	SPAN2311
PHY 339	PHYS3390	PSY 438	PSYC4380	SPA 232	SPAN2312
PHY 343	PHYS3430	PSY 443	PSYC4430	SPA 330	SPAN3300
PHY 345	PHYS3450	PSY 512	PSYC5120	SPA 331	SPAN3310
PHY 346	PHYS3460	PSY 514	PSYC5140	SPA 332	SPAN3320
PHY 4101	PHYS4101	PSY 530	PSYC5300	SPA 333	SPAN3330
PHY 4201	PHYS4201	PSY 531	PSYC5301	SPA 334	SPAN3340
PHY 421	PHYS4210	PSY 5310	PSYC5310	SPA 335	SPAN3350
PHY 422	PHYS4220	PSY 5311	PSYC5311	SPA 338	SPAN3380
PHY 4301	PHYS4301	PSY 5312	PSYC5312	SPA 339	SPAN3390
PHY 432	PHYS4320	PSY 5313	PSYC5313	SPA 432	SPAN4320
PHY 448	PHYS4480	PSY 532	PSYC5302	SPA 433	SPAN4330
POLS131	POLS2304	PSY 5320	PSYC5320	SPA 436	SPAN4360
POLS231	POLS2301	PSY 5321	PSYC5321	SPA 438	SPAN4380
POLS232	POLS2302	PSY 5322	PSYC5322	SWK 131	SOWK2361
POLS321	POLS3210	PSY 5323	PSYC5323	SWK 231	SOWK2371
POLS322	POLS3220	PSY 533	PSYC5303	SWK 330	SOWK3300
POLS323	POLS3230	PSY 5330	PSYC5330	SWK 331	SOWK3310
POLS331	POLS3310	PSY 5331	PSYC5331	SWK 332	SOWK3320
POLS332	POLS3320	PSY 534	PSYC5340	SWK 333	SOWK3330
POLS334	POLS3340	PSY 535	PSYC5350	SWK 334	SOWK3340
POLS335	POLS3350	PSY 669A	PSYC5390	SWK 335	SOWK3350
POLS337	POLS3370	PSY 669B	PSYC5391	SWK 430	SOWK4300
POLS339	POLS3390	SOC 131	SOCI1301	SWK 432	SOWK4320
POLS430	POLS4300	SOC 132	SOCI1306	SWK 4321	SOWK4321
POLS432	POLS4320	SOC 233	SOC12301	SWK 4324	SOWK4324
POLS433	POLS4330	SOC 235	SOCI2375	SWK 438	SOWK4380
POLS434	POLS4340	SOC 331	SOC13310	THE 130	THEA1370
POLS435	POLS4350	SOC 3311	SOCI3311	THE 131	THEA1310
POLS437	POLS4370	SOC 332	SOC13320	THE 1311	THEA2336
POLS439	POLS4390	SOC 333	SOCI3330	THE 132	THEA1330

POLS532	POLS5320
POLS535	POLS5350
PSY 131	PSYC2301
PSY 234	PSYC2308
PSY 237	PSYC2376
PSY 241	PSYC2471
PSY 331	PSYC3310
PSY 332	PSYC3320
PSY 333	PSYC3330
PSY 334	PSYC3340
PSY 336	PSYC3360
PSY 342	PSYC3420
THE 337	THEA3370
THE 338	THEA3380
THE 339	TBEA3390
THE 430	THEA4300
THE 430	THEA5300
THE 431	THEA4310
THE 431	THEA5310
THE 434	THEA4340

SOC 335	SOCI3350
SOC 336	SOCI3306
SOC 3360	SOCI3360
SOC 337	SOCI3370
SOC 338	SOCI3380
SOC 339	SOC13390
SOC 411	SOCI4110
SOC 430	SOCI4300
SOC 4301	SOCI4301
SOC 431	SOC14310
SOC 432	SOCI4320
SOC 434	SOC14340
THE 434	THEA5340
THE 435	THEA4350
THE 435	THEA5349
THE 436	THEA4360
THE 437	THEA4370
THE 437	THEA5370
THE 4371	THEA4371
THE 4371	THEA5371

THE 135	THEA1341
THE 137	THEA1351
THE 230	THEA2370
THE 231	THEA2371
THE 232	THEA2372
THE 235	THEA2375
THE 237	THEA1352
THE 331	THEA3310
THE 332	THEA3320
THE 333	THEA3330
THE 336	THEA3361
THE 3360	THEA3360
THE 438	THEA4380
THE 438	THEA5380
THE 439	THEA4390
THE 439	THEA5399
THE 5325	THEA5325
THE 533	THEA5330
THE 5350	THEA5350
THE 669A	THEA5390
THE 669B	THEA5391

Grasp an opportunity to further your study by learning from and researching with faculty with premier credentials who excel in their fields.

Directory of Personnel 2006-2008

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Greg Wilkinson (2011) ..... *Dallas*

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Cliff E. Woodruff, *B.B.A., M.S., Assistant Vice President for Information Systems*

Academic Council of Deans

Baum, Christina, *M.S.L.S., Ed.D., Interim Dean of Library Services*
Bothel, Richard, *Ed.D., Executive Director, Continuing and Distance Education*
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Capps, Keith, *M.A., Registrar*
Hopper, Jack R., *Dean, College of Engineering*
Lowery-Moore, Hollis, *Ed.D., Dean, College of Education and Human Development*
Nichols, Brenda S., *D.N.Sc., Dean, College of Arts and Sciences*
Schultz, Russ A., *D.M.A., Dean, College of Fine Arts and Communication*
Venta, Enrique R., *Ph.D., Dean, College of Business*
Williams, Gerri, *M.A., Executive Director, Center for General Studies*

The Graduate Council

Bradley, Jerry W., *Ph.D., Professor of English, Associate Vice President for Research and Dean of Graduate Studies*
Crawford, Carolyn H., *Ph.D., Associate Professor of Educational Leadership and Chair*
Culbertson, Robert, *Professor of Music*
Esser, James K., *Ph.D., Professor of Psychology*
Lin, Che-Jen, *Associate Professor of Music*
Moss, Jimmy D., *D.B.A., Professor of Finance*
Vanderleeuw, James, *Ph.D., Professor of Political Science*

The Graduate Faculty 2006-2008

The following list reflects the status of the graduate faculty of Lamar University as of Fall, 2005. The date following each name is the academic year of first service to the University and does not necessarily imply continuous service since that time.

Altemose, J.R., *1997, Professor of Sociology, Social Work and Criminal Justice.*
B.A., Davidson College; M.Ed. Lamar University; M.A., Ph.D.,Sam Houston State University; M.R.E., University of St. Thomas

Anderson, Adrian, *1971, Professor of History.*
B.S., M.A., Ph.D., Texas Tech University

Andreev, Valentin V., *1990, Associate Professor of Mathematics.*
B.M., M.M., University of Sofia; Ph.D., University of Michigan

Andrews, Jean, *1988, Professor of Deaf Education.*
B.A., Catholic University; M.Ed., Western Maryland College; Ph.D., University of Illinois

Arterbury, Elvis A.,*1990, Professor of Educational Leadership.*
B.B.A., Baylor University; M.Ed., Ph.D., East Texas State University

Aung, Kyaw (Ken), *2002, Associate Professor of Mechanical Engineering.*
B.E., Rangoon Institute of Technology; M.E., Asian Institute of Technology; Ph.D., University of Michigan

Bahrim, Bogdana M., *2003, Assistant Professor of Physics.*
B.S., M.S., University of Bucharest Ph.D., Universite Paris-Sud XI

Bahrim, Cristian, *2003, Assistant Professor of Physics.*
M.S., University of Bucharest; Ph.D., Universite Paris-Sud

Bandyopadhyay, Kakoli, *1998, Associate Professor of Management Information Systems.*
B.E.E., Jadavpur University, M.A., M.A., University of Alabama; Ph.D., University of Texas at Arlington

Bandyopadhyay, Soumava, *1992, Professor of Marketing.*
B.S., Jadavpur University, Ph.D., University of Alabama

Barnes, Cynthia, *1982, Professor of Office Administration.*
B.S., Howard Payne University; M. Ed., Texas Tech University; Ed.D., North Texas State University

Barton, Joel E. III, *1987, Professor of Health and Kinesiology.*
B.S., M.Ed., Ph.D., Texas A&M University

Bean, Wendell C., *1968, Professor of Electrical Engineering.*
B.A., B.S., Lamar University;M.S., Ph.D., University of Pittsburgh; Registered Professional Engineer

Beggan, Dominic, *2006, Assistant Professor of Political Science.*
B.A., B.S., M.S., McNeese State University; Ph.D., University of New Orleans

Bernazzani, Paul, *2003, Assistant Professor of Chemistry.*
B.S., University of Montreal; M.S., Ph.B., University of Quebec

Blume, Nancy, *2004, Associate Professor of Nursing.*
B.S., University of Nebraska Medical Center; M.S., Creighton University; Ph.D., University of Kansas Medical Center

Boatwright, Douglas, *1986, Professor of Health and Kinesiology and Director of Graduate Program in Health and Kinesiology.*
B.S., University of Alabama at Birmingham; M.S., Ph.D., Louisiana State University

Boone, Rebecca, *2002, Assistant Professor of History.*
B.A., University of Alabama; M.A. University of South Alabama; Ph.D., Rutgers University

Bowen, Hugh Ferrel, *2003, Visiting Assistant Professor of Chemistry.*
B. S., University of Alabama at Birmingham

Bradley, Jerry W., *2001, Professor of English and Modern Languages, Associate Vice President for Research and Dean of Graduate Studies.*
B.A., Midwestern University; M.A., Ph.D., Texas Christian University

Buck, Janiece T., *2001, Associate Professor of Educational Leadership.*
A.B.B.A., Kilgore Junior College; B.S., M.Ed., Stephen F. Austin State University; Ph.D., University of Texas-Austin

Bulow, Harry T., *2006, Professor of Music and Chair, Department of Music, Theatre and Dance.*
B.A., San Diego State University; M.A., UCLA; Ph.D., UCLA

Buxton, Patti, *2006, Associate Professor of Educational Leadership.*
B.S., University of Central Oklahoma; M.S., University of Oklahoma; Ed.D., Oklahoma State University

Buxton, Sheldon L., *2006, Visiting Associate Professor of Educational Leadership.*
B.S., Missouri Southern State University; M.S., Southwest Missouri State University; Ed.S., Pittsburg State University; Ed.D., University of Arkansas

Carlson, Nancy L., *2006, Assistant Professor of Professional Pedagogy.*
B.A., Graceland College; M.A., University of Nebraska-Lincoln; Ph.D., Texas Woman's University

Carroll, John M., *1972, Professor of History.*
A.B., Brown University; M.A., Providence College; Ph.D., University of Kentucky

Carter, Keith D., *1989, Professor of Art. Walles Chair of Art.*
B.B.A., Lamar University

Cavaliere, Frank J., *2006, Professor of Accounting and Business Law.*
B.A., Brooklyn College; B.B.A., Lamar University; J.D., University of Texas

Chen, Daniel H., *1982, Professor of Chemical Engineering.* B.S., National Chen-Kung University;
M.S., National Taiwan University; Ph.D., Oklahoma State University; Registered Professional Engineer

Chilek, Daniel, *2001, Assistant Professor of Health and Kinesiology.*
B.S., M.S., Lamar University; Ph.D., Texas A&M University

Chiou, Paul, *1988, Professor of Mathematics.*
B.S., National Chung Hsing University; M.A., Ph.D., University of Texas at Arlington

Choi, Jai-Young, *1982, Professor of Economics.*
B.A., Yonsei University; M.A., University of Kansas; Ph.D., University of Oklahoma

Christensen, Ana B., *1999, Assistant Professor of Biology.*
A.S., Richard Bland College; B.S., M.A., College of William and Mary; Ph.D., Clemson University

Christie, Coleen, *2004, Adjunct Instructor for Educational Leadership.*
B.S., University of Houston; M.S., Lamar University

Chu, Hsing-wei, *1979, Professor of Industrial Engineering.*
B.S. Tunghai University; M.S., Asian Institute of Technology; Ph.D., University of Texas; Registered Professional Engineer

Cocke, David L., *1989, Jack M. Gill Professor of Chemical Engineering.*
B.S., University of Texas; M.S., Lamar University; Ph.D., Texas A&M University

Coppin, Charles, *2003, Associate Professor of Mathematics and Chair, Department of Mathematics.*
B.S., Southwestern University; M.S., Ph.D., University of Texas at Austin

Corder, Paul R., *2006, Professor of Mechanical Engineering.*
B.S., M.S., Ph.D., Texas A&M University

Craig, Brian, *2001, Associate Professor of Industrial Engineering.*
B.S., Bioengineering, B.S., Industrial Engineering, M.S., Ph.D., Texas A&M University

Crawford, Carolyn H., *1994, Associate Professor of Educational Leadership and Chair, Department of Educational Leadership.*
B.A., M.Ed, Lamar University; Ph.D., Texas A&M University

Culbertson, Robert, *1974, Professor of Music.*
B.M., M.M., Northern Illinois University; D.M.A., University of Texas at Austin

Curl, Eileen Deges, *2002, Professor of Nursing and Chair, Department of Nursing.*
B.S.N., Marymount College of Kansas; M.S., University of Colorado Health Science Center; Ph.D., University of Texas at Austin

Dahm, Molly, *2004, Assistant Professor of Family and Consumer Sciences.*
B.A., University of Georgia; M.S., B.S., Florida International University; Ph.D., University of Houston

Daigrepont, Lloyd M., *1981, Professor of English and Modern Languages.*
B.A., M.A., Ph.D., Louisiana State University

Daniel, Bobby Dale, *1998, Associate Professor of Mathematics.*
B.S., Stephen F. Austin State University; M.S., Stephen f. Austin State University; Ph.D., Texas A&M University

Daniel, Jennifer R., *2003, Assistant Professor of Mathematics.*
B.S., University of New Orleans; M.S., Ph.D., North Carolina State University

Das, Kumer P., *2006, Assistant Professor of Mathematics.*
B.S., M.S., Dhaka University; Ph.D., Auburn University

Davis, Terri B., *1998, Assistant Professor of Political Science.*
B.S., M.A., University of Texas-Tyler; Ph.D., University of Texas-Austin

DeLana, Melissa M., *2006, Instructor, Department of Communication Disorders and Deaf Education.*
B.S., University of Tulsa; M.S., Lamar University

Dionne, Vickie B., *2006, Assistant Professor of Audiology.*
B.S., M.S., Lamar University; AuD., Pennsylvania College of Optometry

Doerschuk, Peggy Israel, *1993, Associate Professor of Computer Science.*
B.S., University of Southwestern Louisiana; Ph.D., Tulane University

Dorris, Kenneth, *1965, Associate Professor of Chemistry.*
B.S., Ph.D., University of Texas

Drapeau, Richard A., *1983, Professor of Business Statistics.*
B.S., Arizona State University; M.B.A., Lamar University; Ph.D., Texas A&M University

Droddy, Frances, *1993, Assistant Professor of Family and Consumer Sciences.*
B.S., Northwestern State College, M.A., Lamar University, Ph.D., Texas Women's University

Dyess, Wayne, 1977, Professor of Music. B.M., Stephen F. Austin University; M.M., Catholic University of America; Ed.D., University of Houston

Dyrhaug, Kurt J., *2000, Associate Professor of Art.*
B.F.A., Minneapolis College of Art & Design; M.F.A., University of Minnesota

Ellis, Kim, *1990, Professor of Music.*
B.M.E., Illinois Wesleyan University; M.M., Bowling Green State University; D.M.A., Ohio State University

Esser, James K., *1976, Professor of Psychology.*
B.S., University of Iowa; Ph.D., Indiana University

Fang, Xing, *1995, Associate Professor of Civil Engineering.*
B.S.C.E., Tsinghua University, M.S.C.E., Ph.D., University of Minnesota

Farrow, Vicky R., *1999, Associate Professor of Professional Pedagogy.*
B.B.A., Stephen F. Austin State, M.B.A. Lamar University, Ph.D., Purdue University

Fitzpatrick, Oney D. Jr., *1991, Associate Professor Psychology and Associate Dean of College of Arts and Sciences.*
B.A., College of Wooster; M.A., University of Dayton; Ph.D. University of Houston

Flaherty, Dennis K., *2003, Assistant Professor of Biology.*
B.S., West Liberty State College; M.S., Ph.D., West Virginia University

Forret, Jeff, *2006, Assistant Professor of History.*
B.A., St. Ambrose University; M.A., University of North Carolina; Ph.D., University of Delaware

Fraccastoro, Katherine A., *2004, Assistant Professor of Management and Marketing.*
B.A., M. B. A., Louisiana Tech University; Ph.D., Louisiana State University

Frisbie, Jennifer, *2002, Assistant Professor of Sociology, Social Work, and Criminal Justice.*
B.A., Sociology, B.A., Psychology, Austin College; M.A., University of Texas; Ph.D., Sam Houston State University

Gachot, Richard M., *2006, Assistant Professor, Department of Family & Consumer Sciences.*
B.A., Denison University; M.ARCH., Columbia University

Gentry, Mary Ann, *1996, Assistant Professor of Communication Disorders.*
B.A., Northeast La. University; M.S., Ed.D., Lamar University

Gilman, Kurt A., *1986, Associate Professor of Music.*
B.M., Eastman School of Music; M.M., Texas Tech University; D.M.A., University of Texas at Austin

Godkin, Jennie, *2000, Assistant Professor of Nursing.*
A.B., Southern Nazarene University; B.S., Lamar University; M.S.N., UTMB at Galveston; Doctoral Student, UTMB at Galveston

Godkin, Roy Lynn, *1981, Professor of Management.*
A.B., Bethany Nazarene College; M.R.B.E., Nazarene Theological Seminary; M.A., University of Illinois at Springfield; Ph.D., University of North Texas

Gossage, John L., *1998, Associate Professor of Chemical Engineering.*
B.S., M.S., Ph.D., Illinois Institute of Technology, Chicago, IL.

Goulas, Fara M., *2003, Associate Professor of Professional Pedagogy.*
B.A., Lamar University; M.A., University of Colorado-Boulder; Ed.D., McNeese State University

Graham, George W., *2003, Adjunct Professor of Educational Leadership.*
B.A., Baylor University; M.S., Ph.D., Brigham Young University

Greschner, Debra, *2006, Adjunct Instructor, Department of Music, Theatre and Dance.*
B.M., University of Saskatchewan; M.M., University of Nevada

Griffith, Kimberly, *1999, Associate Professor of Professional Pedagogy.*
B.S., M. Ed., Ph.D., University of Southern Mississippi

Griffith, Paul, *1997, Associate Professor of English and Modern Languages.*
B.A., M. Philosophy University of the West Indies; Ph.D., Pennsylvania State University

Gwin, Howell H., Jr., *1962, Professor of History.*
B.A., M.A., Ph.D., Mississippi State University

Gwynn, Robert S., *1976, Professor of English and Modern Languages.*
A.B., Davidson College; M.A., M.F.A., University of Kansas

Hall, Iva, *2001, Assistant Professor of Nursing.*
B.S.N., M.S.N., University of Central Arkansas; Ph.D., Texas Women's University

Hamza, Mohammad K., *2003, Associate Professor of Professional Pedagogy.*
B.S., M.S., Friends University; M. Ed., University of Oklahoma; Ph.D., Texas A&M University

Harrel, Richard C., *1966, Professor of Biology.*
B.S., East Central State College; M.S. Ed, University of Georgia; Ph.D. Oklahoma State University

Harris, Sandra, *2005, Professor of Educational Leadership.*
B.S., Emporia State University; M.A., University of Texas at San Antonio; Ph.D., University of Texas at Austin

Hawkins, Charles, *1966, Regents' Professor of Economics.*
B.A., Lamar University; M.A., Ph.D., Louisiana State University

Hawkins, Emma, *1996, Associate Professor of English and Modern Languages.*
B.A., Oklahoma Baptist University; M. Div., Southwestern Baptist Theological Seminary; M.A., Ph.D., University of North Texas

Hernandez, Barbara, *2001, Associate Professor of Health & Kinesiology.*
B.A.M.Ed., North-western State University of Louisiana; Ph.D., Texas Woman's University of Denton

Hines, Betsy B., *2006, Assistant Professor, Department of Music, Theatre and Dance.*
B.M., M.M., University of Texas; Ed.D., University of Houston

Ho, Tho-Ching, *1982, Professor of Chemical Engineering.*
B.S., National Taiwan University; M.S., Ph.D., Kansas State University, Registered Professional Engineer

Hodges, Steve, *1990, Associate Professor of Art.*
B.S., Lamar University; M.F.A., University of Arkansas

Holmes, William R., *1990, Professor of Educational Leadership.*
B.A., Oklahoma Baptist University; Th.M., New Orleans Baptist Theological Seminary; M.S., Ph.D., University of Southern Mississippi

Hopper, Jack R., *1969, Professor of Chemical Engineering and Dean, College of Engineering.*
B.S., Texas A&M University; M.Ch.E., University of Delaware; Ph.D., Louisiana State University; Registered Professional Engineer

Hunt, Madelyn D., *1984, Professor of Biology and Director of General Studies.*
B.S., Lamar University; M.P.H, Dr. P.H, University of Physical Health

Irons, Ellen Jane., *2004, Professor, Department of Educational Leadership.*
B.S., University of Florida; M.Ed., Trinity University; Ed.D., Northeastern University

Irwin, George M., *2003, Associate Professor of Physics.*
B.S., Case Western Reserve University; M.S., Ph.D., The Ohio University

Jack, Meredith M., *1977, Professor of Art.*
B.F.A., University of Kansas; M.F.A., Temple University

Jao, Mien, *1998, Associate Professor of Civil Engineering.*
B.S., Chung-Yuan Christian University; M.A., Ph.D., Pennsylvania State University

Jordan, Michael, *2002, Assistant Professor of Sociology, Social Work & Criminal Justice.*
B.A., M.P.A., University of New Mexico; M.A., Ph.D., University of Missouri-St. Louis

Kang, Kyehong, *2004, Assistant Professor of Mathematics.*
M.S., Seoul National University; M.S. Virginia Tech; Ph.D., Virginia Tech

Karlin, Andrea, *1981, Professor of Reading.*
B.A., Hunter College; M.A., Ph.D. University of Mexico

Kasner, Andrew, *2004, Assistant Professor of Biology.*
B.S., M.S., Angelo State University; Ph.D., Texas A&M University

Kelley, Mary L., *2002, Assistant Professor of History.*
A.A., San Antonio College; B.S., M.A., South West Texas State University; Ph.D., Texas Christian University

Kendrick, Kevin, *2006, Assistant Professor, Department of Health and Kinesiology.*
B.S., Aquinas College; M.S., Eastern Kentucky University; Ph.D., Texas Woman's University

Kent, Bradley N., *2006, Assistant Professor, Department of Music, Theatre and Dance.*
B.M., Louisiana State University; M.M., D.M.A., University of Texas-Austin

Kenyon, George N., *2003, Assistant Professor of Marketing.*
B.S., University of Houston; M.S., Florida Institute of Technology; Ph.D., Texas Tech University

Killough, Jill, *2003, Clinical Instructor, Department of Family and Consumer Sciences.*
B.S., M.S., Lamar University; currently enrolled in Doctoral program at Texas Women's University, Houston

Kim, Tae Hoon, *2006, Adjunct Instructor, Department of Industrial Engineering.*
Ph.D., University of Texas-Austin

Kirk, Edythe, *2004, Assistant Professor of Psychology.*
B.S.N., B.S., M.S. in Psychology and Biology, Lamar University; Ph.D., University of Oregon

Koehn, Enno, *1984, Professor of Civil Engineering.*
B.C.E., City University of New York; M.S., Columbia University; Ph.D., Wayne State University; Registered Professional Engineer

Koh, Hikyoo, *1981, Professor of Computer Science.*
B.A., Young-Nam; M.S., University of Hawaii; Ph.D., University of Pittsburgh

Kruger, Joseph M., *2006, Assistant Professor, Department of Earth and Space Sciences.*
B.S., Appalachian State University; M.S., University of Texas-El Paso; Ph.D., University of Arizona

Li, Chung-Chih, *2002, Assistant Professor of Computer Science.*
B.S., Tamkang University; M.S., Lamar University; Ph.D., Syracuse University

Li, Ku-Yen, *1978, Professor of Chemical Engineering and Chair, Department of Chemical Engineering.*
E. B.S., M.S., Chen Kung University; Ph.D., Mississippi State University

Lin, Che-Jen, *1999, Associate Professor of Civil Engineering.*
B.S., Tatung Institute of Technology, M.S., Duke University, Ph.D., University of Cincinnati

Lin, Sidney, *2006, Assistant Professor, Department of Chemical Engineering.*
B.S., M.S., National Cheng Kung University; Ph.D., University of Houston

Lindoerfer, Joanne, *1980, Associate Professor of Psychology.*
B.S., Loyola University, Chicago; M.S., Ph.D., University of Texas

Liu, Jiangjiang, *2004, Assistant Professor of Computer Science.*
Ph.D., New York State University

Loges, Max, *1991, Professor of English and Modern Languages.*
B.A., Northwestern Oklahoma State University; M.Div., Southwestern Baptist Theological Seminary; M.A., Fort Hays State University; Ph.D., Oklahoma State University

Lokensgard, Lynne, *1973, Professor of Art.*
B.A., University of Minnesota; Ph.D., University of Kansas

Lou, Helen H., *2002, Associate Professor of Chemical Engineering.*
B.S., Zhejiang University; M.S., M.A., Ph.D., Wayne State University

Lumpkin, Richard S., *1999, Associate Professor of Chemistry.*
B.S., University of Texas at Austin, Ph.D., University of North Carolina at Chapel Hill

Lynch, Howell, Jr., *1997, Professor and Chair, Department of Accounting and Business Law.*
B.B.A., Middle Tennessee State University; M.P.A., University of Texas; Ph.D., Texas A&M

Maesumi, Mohsen, *1991, Associate Professor of Mathematics.*
B.A., Princeton University; M.S., Yale University; Ph.D., New York University

Mahavier, William T., *2001, Associate Professor of Mathematics.*
B.S., Auburn University; M.S., Emory University; Ph.D., University of North Texas

Mandal, Purnendu, *2004, Professor and Chair of Management Information Systems.*
BTech., MTech., Indian Institute of Technology, Kharagpur; Ph.D., University of Bradford, U.K.

Mann, Judith R, *1997, Assistant Professor of Psychology.*
B.S., Northeast Louisiana University, M.S., Ph.D., Texas A&M

Mantie-Kozlowski, Alana, *2003, Instructor/Clinical Supervisor, Department of Communication Disorders.*
B.S., University of Manitoba; M.S., Lamar University

Maroonroge, Sumalai, *1999, Associate Professor of Communication Disorders.*
M.S., Michigan State University, M.S., University of Northern Iowa, Ph.D., University of Tennessee

Martin, Christopher B., *2004, Assistant Professor of Chemistry.*
B.A., University of Kentucky; B.S., Ph.D., Ohio State University

Martin, Gabriel A., *1989, Professor of Communication Disorders and Chair, Department of Communication Disorders.*
B.S., M.S., Lamar University; Ed.D., University of Southern Mississippi

Matheson, Alec L., 1983, Professor of Mathematics. B.S., University of Washington; Ph.D., University of Illinois

Mathis, Barbara Thomas, *1990, Professor of Music.*
B.M., M.M., North Texas State University; Ph.D., University of North Texas

Matlock, Ann, *2000, Associate Professor of Art.*
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