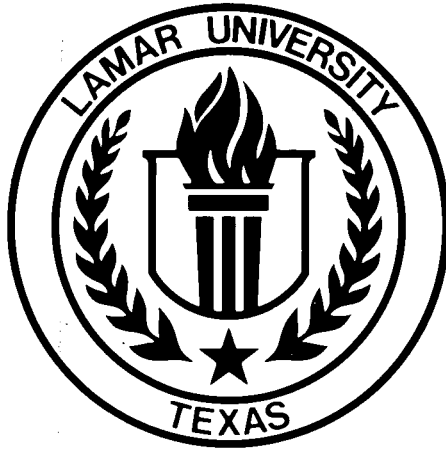


LAMAR UNIVERSITY • 85-86
GRADUATE CATALOG



Lamar University

College of Graduate Studies

1985-86 Bulletin

Vol. 34 No. 2

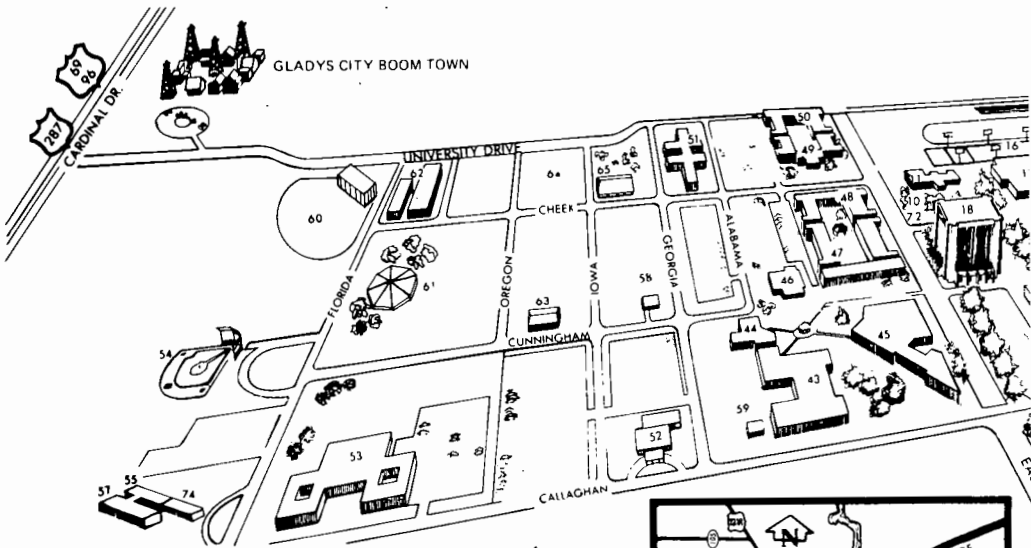
Sixteenth annual catalog issue with announcements for 1985-86.

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 requirements affecting students. Changes become effective when the proper authorities so determine the application to both prospective students and to the students already enrolled.

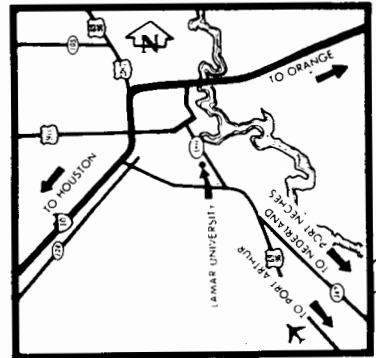
Lamar University is an equal opportunity/affirmative action educational institution and employer. Students, faculty and staff members are selected without regard to their race; color, creed, sex or national origin, consistent with the Assurance of Compliance with Title VI of the Civil Rights Act of 1964; 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, Personnel and Student Services.

Bulletin of Lamar University USPS 074-420. Third class postage paid at Beaumont, Texas 77710. Published monthly except in June, July and August.



Register of Offices

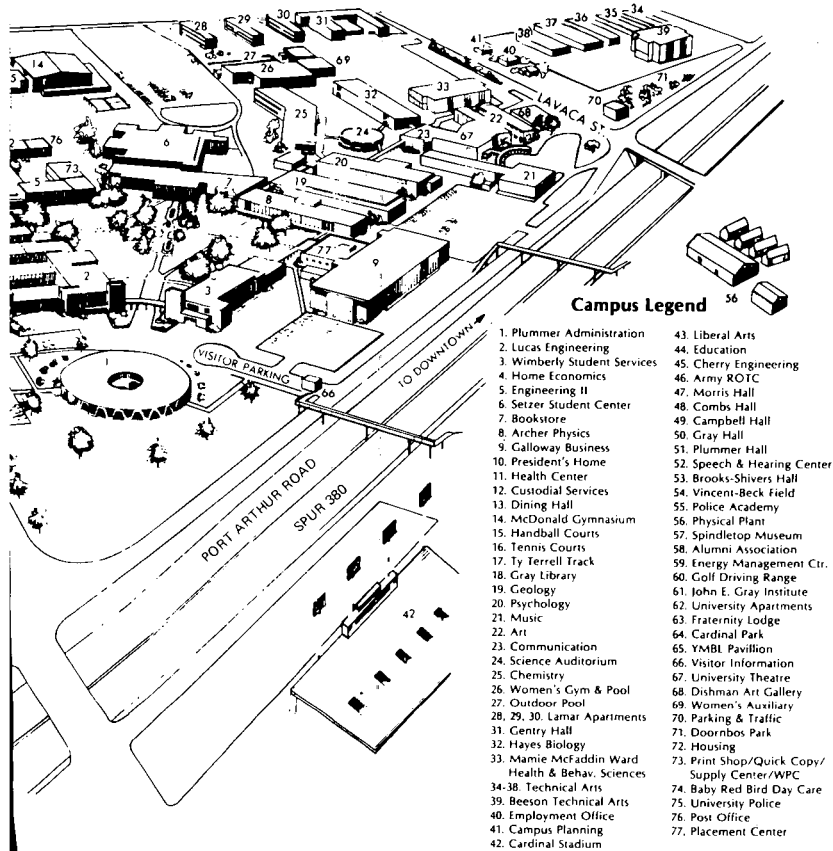
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The Campus

Lamar University's campus has expanded rapidly during the past decade and now encompasses more than 200 acres. The University also has campuses in Orange and Port Arthur.

Guidelines for future expansion of the Beaumont campus are included in a conceptual master plan which will guide development in the year 2000. A large portion of the master plan has been approved by the University's Board of Regents.



Architects have placed strong emphasis upon developing a feeling of "monumentality and dignity" with the Mary and John Gray Library as the dominant focus of the campus. The 20-year plan shows the addition of multi-storied buildings.

1985-86 Calendar

Published dates of this calendar are subject to revision by published notice from the Vice President for Academic Affairs.

Fall Semester—1985

AUGUST						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
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SEPTEMBER						
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OCTOBER						
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NOVEMBER						
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DECEMBER						
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29	30	31				

August 1985

- 22 International Student Orientation
- 23 New Student Orientation (for fall entrants and transfer students)
- 25 Dormitories open at 1 p.m.
Dining halls open at 4:30 p.m.
- 26 Registration begins
- 27 Registration
- 29 Classes begin—late registration— schedule revisions
- 30 Last day for schedule revisions and/or late registration

September 1985

- 2 Labor Day—no classes
- 16 Twelfth Class Day

October 1985

- 10 Last day to drop or withdraw without penalty
- 17 Last day to apply for December graduation
Last day to pay for diploma; cap and gown

November 1985

- 4— December 6—period for Comprehensive Oral Examinations
- 7 Comprehensive Written Examinations
- 15 Last day to drop or withdraw
- 27 Thanksgiving recess begins at 10 p.m.
Dining halls close at 6 p.m.
Dormitories close at 10 p.m.

December 1985

- 1 Dormitories open at 1 p.m.
Dining halls open at 4:30 p.m.
- 2 Classes resume at 8 a.m.
- 11-17 Final examinations
- 18 Dining halls close at 10 a.m.
Dormitories close at 12 noon
- 19 Grades for Graduating seniors due by 8:30 a.m.
All grades due by 4 p.m.
- 21 Commencement (Beaumont)

Spring Semester—1986

JANUARY

S	M	T	W	T	F	S
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FEBRUARY

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MARCH

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30	31					

APRIL

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MAY

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25	26	27	28	29	30	31

January 1986

- 9 International Student Orientation
- 10 New Student Orientation (for spring entrants)
- 12 Dormitories open at 1 p.m.
Dining halls open at 4:30 p.m.
- 13 Registration begins
- 14 Registration
- 16 Classes begin—late registration— schedule revisions
- 17 Last day for schedule revisions and/or late registration
- 31 Twelfth Class Day

February 1986

- 27 Last day to drop or withdraw without penalty

March 1986

- 6 Last day to apply for May graduation
Last day to pay for diploma; cap and gown
- 21 Spring recess begins at 5 p.m.
Dining halls and dormitories close at 6 p.m.
- 30 Dormitories open at 1 p.m.
Dining halls open at 4:30 p.m.
- 31 Classes resume at 8 a.m.

April 1986

- 3 Comprehensive Written Examinations
- 7— May 2—period for Comprehensive Oral Examinations
- 15 Last day to drop or withdraw

May 1986

- 7-13 Final examinations
- 14 Dining halls close at 10 a.m.
Dormitories close at 12 noon
- 15 Grades for graduating students due by 8:30 a.m.
All grades due by 4 p.m.
- 17 Commencement (Beaumont)

Summer Session 1986—First Term

May 1986

30 International Student Orientation

June 1986

- 1 Dormitories open at 1 p.m.
Dining halls open at 4:30 p.m.
- 2 Registration
Deadline to apply for Orientation Session I
- 3 Classes begin—Schedule revisions and/or late registration
- 4 Last day for schedule revisions and/or late registration
- 6 Fourth Class Day
- 10-12 Freshman Orientation—Session I
- 16 Last day to drop or withdraw without penalty
Deadline to apply for Orientation Session II
- 24-26 Freshman Orientation—Session II
- 26 Comprehensive Written Examinations (Except College of Business)
- 27 Last day to apply for August graduation
Last day to pay for diploma; cap and gown
- 30— July 26—period for Comprehensive Oral Examinations

July 1986

- 1 Last day to drop or withdraw
- 4 Independence Day—no classes
- 9 Last class day
- 11 All grades due by noon

Summer Session 1986—Second Term

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

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					1	2
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

July 1986

- 7 Comprehensive Written Examination (College of Business only)
- 10 Registration
- 11 Classes begin—Schedule revisions and/or late registration
Deadline to apply for Orientation Session III
- 14 Last day for schedule revisions and/or late registration
- 16 Fourth Class Day
- 19-21 Freshman Orientation—Session III
- 24 Comprehensive Written Examinations (Except College of Business)
- 24 Last day to drop or withdraw without penalty
- 28 Deadline to apply for Orientation Session IV

August 1986

- 5-7 Freshman Orientation—Session IV
- 8 Last day to drop or withdraw
- 15 Last class day
Grades for graduating students due by 8:30 a.m.
Dining halls and dormitories close at 6 p.m.
- 16 Commencement (Beaumont)
All grades due by 8:30 a.m.

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Mirabeau
Lamar

1798
1859

General Information

Location

Lamar University, a state-supported institution, is located in Beaumont, Texas, one of the world's largest petrochemical centers. Beaumont is one of the fastest growing and most progressive cities in the Sunbelt. The city offers private and public schools, churches, museums, shopping districts and a wide range of leisure-time activities to serve the metropolis of 130,000. A civic center, convention center and coliseum draw professional entertainers and a wide variety of business, social and professional groups to the city. Beaumont is convenient to major recreational facilities of Southeast Texas, including the Gulf of Mexico, large lakes and the Big Thicket National Forest.

History

South Park Junior College was established in 1923 and was controlled by the South Park Independent School District. Classes were conducted in the South Park High School Building. An initial enrollment of about 125 students in 1923 had increased to 300 by 1931.

In 1932, the name of the institution was changed to Lamar College. At this time, separate facilities were provided, additional equipment was purchased and new policies instituted. By 1939, enrollment was approximately 640.

Lamar Union Junior College District was created in 1940, and Lamar College was separated from the South Park Independent School District. Bonds were approved and new facilities were constructed on the site of the present main campus.

Movement to expand Lamar College into a four-year state-supported school culminated in the creation of Lamar State College of Technology on September 1, 1951. Since then, enrollment has increased to more than 12,800 students, and the curriculum has been expanded to include many areas of study. Graduate work in specified fields began in the academic year of 1960-61, and extension work became an integral part of the educational program in 1964. A doctoral program in engineering was added in 1971. Lamar University at Orange, offering first and second year courses, opened in 1969. Lamar University at Port Arthur, also offering first and second year courses, began operation in the fall of 1975. The University also owns 36 acres on Pleasure Island in Port Arthur.

The institution's status as a university became official on August 23, 1971, when the name was changed to Lamar University.

The University's status was again changed when the Texas Legislature passed a bill creating the Lamar University System. The bill was signed into law on June 19, 1983.

Government

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

Accreditation and Approval

Lamar University is fully accredited by the Association of Texas Colleges and Universities and by the Southern Association of Colleges and Schools. The College of Graduate Studies is a member of the Council of Graduate Schools in the United States.

Several departments and programs have been accredited by professional agencies. In the College of Engineering, the departments of Chemical, Civil, Electrical, Industrial and Mechanical Engineering are accredited by the Accrediting Board for Engineering and Technology. The undergraduate programs of the College of Business are accredited by the American Assembly of Collegiate Schools of Business. Other accreditations include the Department of Chemistry by the American Chemical Society; Department of Music by the National Association of Schools of Music; and the Departments of Elementary and Secondary Education by the National Council for the Accreditation of Teacher Education, and Council on Social Work Education.

The University also is a member of a number of academic councils, societies, associations and other such organizations.

The Texas Education Agency has approved Professional Certification programs in a number of areas.

The program in Speech Pathology is accredited by the American Speech-Language-Hearing Association.

The program in Deaf Education is accredited by the Council of Educators of the Deaf.

The Library

The eight-story Mary and John Gray Library building dominates the campus from its central location. Built to house a million volumes, the Library now occupies six floors with open access to 650,000 volumes. Seating accommodates 1,200 students and faculty.

The first floor service areas include circulation, reference, media, and interlibrary loans. The second floor houses reserve reading, current periodicals and government documents. Four floors provide stacks for books and periodicals shelved in Library of Congress classification sequence from class A on the third floor through class Z on the sixth floor.

The seventh and eighth floors offer expansion space for the future, but are presently shared with other University services. Library special collections and a lecture room share the seventh floor with the Public Services Division, Continuing Education programs. The spacious and elegant eighth floor, furnished by community donors, serves as a University Reception Center for meetings and conferences.

Expanding library collections support continuously evolving academic programs. In addition to a strong collection of books and periodicals, the Library provides access to state and federal government documents and participates in the library networks which extend access to information resources. The Library coordinates multi-media programs on campus and is developing basic collections of equipment and materials for central distribution.

Research Office

A Research Office was formally organized in 1956. It is administered by a director who serves as the chairman of the faculty research committee. All state financed research projects are awarded through the research committee.

Computer Center

The University Computer Center is responsible for providing the computing services required by the academic, administrative and research communities of the University.

The Computer center has a Honeywell DPS8/49 computer with 1536K words of 36 bit MOS memory and approximately 1.1 billion characters of on-line disk storage. The system supports one card reader, one card punch, two line printers and three tape drives at the main site. Over ninety terminals are available for interactive computer use. Extensive communication equipment can connect up to 53 synchronous and 134 asynchronous terminals to the computer concurrently. A remote job entry station which has one card reader and one printer is located in the Beeson Technical Arts Building.

Academic computing work, particularly students in Computer Science courses, accounts for a large portion of the Computer Center's computer usage. Each student is responsible for preparing his or her own program. Most student programs are usually processed within thirty minutes. Keypunches are available for punching cards. All jobs are automatically scheduled by the computer which considers computing time and storage requirements as well as other factors.

Counseling and Testing Center

Lamar University maintains a Counseling and Testing Center to serve students encountering education, social or personal difficulties as well as to provide testing services. The center is staffed with a fully-trained and qualified psychologist, counselors and a psychometrist to assist in the resolution of student problems and questions.

While the Counseling Office does not address problems of long-term therapeutic nature, students encountering difficulties are encouraged to consult the office on a no-charge basis. All contacts are maintained as confidential and no entries are made in the student's records. In addition to counseling, the office maintains a library to assist students in making decisions concerning choices of majors and careers.

The Testing Office coordinates required testing by Lamar University and provides individual testing services which include administering and interpreting appropriate aptitude, vocational interest and personality tests as requested by the Counseling Center staff. Non-students in need of testing services pay a fee dependent upon the program and type of test taken. The Testing Office also acts as a National Testing Center for programs such as the Graduate Record Examinations, Law School Admission Test, National Teacher Examinations, Graduate Management Admission Test, SAT, ACT, CLEP advanced standing test, GED high school equivalency test and numerous other tests. Information and application forms concerning these tests may be obtained from the Testing Office.

The Counseling and Testing Center is located in the Wimberly Student Affairs Building and observes the office hours of the University. A staff member is also available until 8 p.m. Monday through Thursday for the benefit of students who are attending extended day classes.

Placement Center

The Placement Center is a centralized operation responsible for placement activities for all colleges of the university. The placement services are available free of all costs to students, faculty, staff and all former students. The center keeps updated information in career fields and job areas, employers and the kind of employees being sought.

Interviews are scheduled regularly with companies, governmental agencies, schools and other employers.

The center also offers student seminars pertaining to job search techniques, interviews, resume writing and job availability. The Placement Center is located in Room 102 of the Galloway Business Building.

Health Center

The University maintains a Health Center for the use of students. Two types of service are available: (1) out-patient service for those who have minor ailments but who do not require constant supervision, and (2) infirmary service for those who are in need of the continued attention of the University physician or of nursing care.

It is not possible for the University to provide unlimited medical service. Special medicines, examinations, treatments, X-rays and laboratory tests are not furnished. No charge is made, however, for up to 10 days' care each semester in the Health Center, except for meals.

All students pay a Health Service Fee of \$5 up to 5 semester hours then \$1 for each additional hour with a maximum of \$15 for each of the Fall and Spring semesters, and \$1 per semester hour with a maximum of \$10 for each of the Summer sessions. Vaccines, serums and gamma globulin will be given in the Health Center from 1:00 to 4:30 P.M. Monday through Friday free of charge. Pre-admission vaccinations are not included. All drugs prescribed and dispensed in the Health Center are free of charge except for a limit of one prescription refill per illness or accident. The first \$100 of costs for emergency care of accidental injuries sustained on the campus and treated in a local hospital or doctor's office will be paid from student health fees. For services in the Health Center, each student must present his or her student services card.

The Health Center is located on East Virginia Street adjacent to tennis courts. The Health Center does not provide care for students requiring surgery or the services of specialists. In these cases, every effort will be made by the physician or nurse to refer to a doctor or facility for treatment; furthermore, every effort will be made to notify the parent or guardian of the student's needs.

The University assumes no responsibility for continued medical care for chronically ill or injured students. These students should arrange for the care of a private physician. When the University is not in session, the Student Health Center is not responsible for a student's health care.

The University is not under obligation to provide hospital services elsewhere if the Health Center is filled to capacity. The Health Center, however, has a sufficient number of beds for all normal needs.

Students who are ill should report promptly to the Health Center for medical care.

Veterans Education

Lamar is approved for educational training under all of the Veterans Educational Assistance programs.

Veterans and their dependents who are interested in attending Lamar under federal laws which provide educational assistance are directed to secure information by consulting the Office of Veterans' Affairs, Wimberly Student Affairs Building.

This office advises veterans on program and training opportunities, academic assistance and counseling.

Loan Funds and Scholarships

Financial assistance in the form of loans, grants and scholarships is available for a number of qualified students. Details may be obtained on request from the Director of Student Aid.

Teaching Fellowships and Assistantships

A number of teaching fellowships and assistantships are available in the various departments of the College of Graduate Studies. Application forms and additional information may be obtained either from the department head or from the Dean of the College of Graduate Studies.

Fellowships and assistantships are awarded only to those individuals who meet all admission requirements to a graduate degree program, including satisfactory GRE/GMAT scores.

The stipend for a teaching fellow varies in accordance with the number of courses taught. Students must reduce their academic load in relation to their teaching assignment (the combined teaching and course load may not exceed fifteen load units in the long term). The maximum teaching responsibilities for a teaching fellow or assistant is six load units.

Tuition and fees are not waived for teaching fellows or assistants, but nonresidents of Texas are not required to pay out-of-state tuition.

Applications should be received by February 1 for the next academic year.

Teacher Certification

Lamar University has been approved by the Texas Education Agency to offer professional certification programs in administration, counseling and guidance, elementary, secondary, special education, reading, supervision and visiting teacher. Specific information concerning certification may be found in the College of Education section of this catalog or may be obtained from the Director of Certification in the College of Education.

Fees and Expenses

Payment of Fees

Lamar University reserves the right to change fees in keeping with acts of the Texas Legislature and the University's Board of Regents.

A student is not registered until all fees are paid in full. Payment may be made by check, money order or currency. Checks and money orders, not in excess of total fees, should be made payable to Lamar University and will be accepted subject to final payment.

Tuition and Fees

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; a nonresident U.S. citizen; or a citizen of another country.* Each student pays a student services fee of \$4.00 per semester hour, with a maximum of \$45 in a long session.

*Determination of legal residence for tuition purposes is made on the basis of statutes of the State of Texas. Refer to the Coordinating Board, Texas College and University System "Rules and Regulations for determining Residence Status" as revised, July 16, 1974, available in the Office of the Dean of Admissions and Registrar.

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 Dean of Admissions and Registrar 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 dean of admissions and records.

Publication of Thesis/Dissertation Abstracts

The Graduate Council requires that thesis and dissertation abstracts be published by University Microfilms. Fees for this service are changed from year to year by University Microfilms. In 1983, these fees were \$20 for a master's thesis and \$25 for a doctoral dissertation. If copyrighting is desired, an additional fee of \$20 is charged.

Refund of Fees

Any student officially withdrawing will receive a refund on tuition, Setzer Center, student service, laboratory, building and general use and private lesson fees according to the following schedule:

Fall or Spring Semester

- Prior to the first class day, 100 per cent.
- During the first five class days, 80 per cent.
- During the second week of classes, 70 per cent.
- During the third week of classes, 50 per cent.
- During the fourth week of classes, 25 per cent.
- After the fourth week of classes, none.

Summer Session

- Prior to the first class day, 100 per cent.
- During the first, second or third class day, 80 per cent.
- During the fourth, fifth or sixth class day, 50 per cent.
- Seventh class day and thereafter, none.

Questions regarding refunds should be referred to the Finance Office.

Summary of Fees

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

Term	No. of Semester Hours	Tuition			Student Service Fee	General Use Fee	Setzer Center Fee	Health Center Fee	Total Change		
		Texas*	USA/NON-TEX*	Foreign*					Texas*	USA/NON-TEX*	Foreign*
		A	B	C					A	B	C
Each	1	\$50	\$ 46	\$ 69	\$20	\$20	\$20	\$ 5	\$115	\$ 111	\$ 134
Fall	2	50	92	138	25	20	20	5	120	162	208
or	3	50	138	207	30	20	20	5	125	213	282
Spring	4	50	184	276	35	24	20	5	134	268	360
Semester	5	50	230	345	40	30	20	5	145	325	440
	6	50	276	414	45	36	20	6	157	383	521
	7	50	322	483	50	42	20	7	169	441	602
	8	50	368	552	55	48	20	8	181	449	683
	9	50	414	621	60	54	20	9	193	557	764
	10	50	460	690	60	60	20	10	200	610	840
	11	50	506	759	60	66	20	11	207	663	916
	12	50	552	827	60	72	20	12	214	716	992
	13	52	598	897	60	78	20	13	223	769	1,068
	14	56	664	966	60	84	20	14	234	822	1,144
	15	60	690	1,035	60	90	20	15	245	875	1,220
	16	64	736	1,104	60	90	20	15	249	921	1,289
	17	68	782	1,173	60	90	20	15	253	967	1,358
	18	72	828	1,242	60	90	20	15	257	1,013	1,427
	19	76	874	1,311	60	90	20	15	261	1,059	1,496
	20	80	920	1,380	60	90	20	15	265	1,105	1,565
Each	1	\$25	\$ 46	\$ 69	\$20	\$20	\$10	\$ 1	\$ 76	\$ 97	\$120
Six	2	25	92	130	25	20	10	2	82	149	195
Week	3	25	138	207	30	20	10	3	88	201	270
Summer	4	25	184	276	30	24	10	4	93	252	344
Session	5	25	230	345	30	30	10	5	100	305	420
	6	25	276	414	30	36	10	6	107	358	496
	7	28	322	438	30	42	10	7	117	411	572
	8	32	368	552	30	48	10	8	128	464	648
	9	36	414	621	30	54	10	9	139	517	764
	10	40	460	690	30	60	10	10	150	570	800

Code: A. U.S. citizens who are legal residents of Texas under tuition law; B. (1) U.S. citizens who are not legal residents of Texas under tuition law, and C. (2) Foreign from non-exempt countries.

Laboratory Fees

A laboratory fee of \$2 is charged each semester for courses with a combined lecture and laboratory credit of from one to three semester hours. The laboratory fee is \$4 per semester for courses of four or more semester hours credit.

Private Lessons in Voice and Instrumental Music

One half-hour lesson per week \$18
 Two half-hour lessons per week..... \$36

Late Registration Fee

A charge of \$5 is made during the first day of late registration. This fee increases by \$2.50 per day to a maximum of \$15.

Parking Fee

Each student who pays the necessary fee is issued a car decal which permits parking on the campus. This decal 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, \$15; Spring Semester, \$10; Summer Session I, \$6; Summer Session II, \$4. Only one registration is required during an academic year, and a student's parking fee is honored until the end of Summer Session II.

Health and Accident Insurance

Health and accident insurance coverage is available at registration for students carrying nine or more semester hours. The fee is estimated at \$36. This or similar insurance is required of all international students.

Miscellaneous Fees

Thesis Binding (one copy)	\$ 7.50
Microfilming (Masters)	20.00
Microfilming (Doctors)	25.00
Master's Diploma	12.00
Cap, Gown and Hood Rental (Master's)	25.00
Cap, Gown and Hood Rental (Doctor's)	27.50
Returned Checks (Bookstore)	10.00
Reentry Fee	5.00
Transcript Fee	2.00

Returned Check Fees

A student is automatically suspended from the University if a check is returned unpaid. The student may re-enter upon redemption of the check plus payment of the returned check fee of \$5.

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.

Student Housing

The student housing program at Lamar is designed to supplement the academic program by providing opportunities for social and intellectual development and recreation in a pleasant living environment. The University recently completed a multi-million dollar renovation program, making its residence halls among the most modern in Texas. A variety of living styles are available and include modern furniture, semi-private rooms, carpet, central heating and air conditioning and various color schemes in the dormitories. Apartment accommodations in newly remodeled buildings also are available.

Students who do not feel the residence hall program meets their personal needs may elect to find living accommodations off-campus.

Questions concerning the housing system, its policies, room and board rates, should be directed to the Student Housing Office, Lamar University Station, Box 10041, Beaumont, Texas 77710.



Academic Information

Course Numbering

Semesters of a course are numbered separately and each number contains three or more figures. Master's level courses are numbered 400G and 500. Doctoral level courses are numbered 500D and 600. Students who receive graduate credit for 400 (also 400G) level courses are expected to complete extra assignments in the courses over and above what is required for undergraduate credit.

The second figure indicates the number of semester hours credit. The third figure or figures indicates the order in which the course normally is taken. The letter A or B following course numbers indicates partial credit in each course; full credit for such numbered courses will be granted only when the series has been completed.

In this bulletin, each course title will be followed by three digits separated by colons such as (3:3:1). 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. 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.

Changing Schedules

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

Dropping Courses

After consultation with their advisor and/or department head, 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 Office of Admissions and Records. A student may not drop a course within seven calendar days of the beginning of the final examinations or three calendar days before the end of a summer term.

Withdrawals

Students who wish to withdraw during a semester or summer term should fill out a Withdrawal Petition in triplicate in the office of their department head or Dean of the College of Graduate Studies. Students must clear all financial obligations and return all uniforms, books, laboratory equipment and other materials to the point of original issue. Three copies of the withdrawal form signed by the department head or Graduate Dean, the director of library services and an associate dean of student development are presented to the Office of Admissions and Records by the student.

The Finance Office, on application before the end of the semester or Summer Session, will return such fees as are returnable according to the schedule shown under the "fees" section of the 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" is issued for each course affected. A grade of "F" is issued for all courses not being passed at the time of withdrawal after the penalty free period.

A student may not withdraw within seven calendar days of the beginning of final examinations or three calendar 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.

Enforced Withdrawal Due to Illness

The director of the Health Center and the vice president for student affairs, on the advice of competent medical personnel, may require withdrawal, or deny admission, of a student for health reasons (mental or physical).

Academic Records

Academic records are in the permanent custody of the Admissions and Records Office. Transcripts of academic records may be secured by an individual personally or will be released on the student's written authorization.

Students who owe debts to the University may have their official transcripts withheld until the debt is paid.

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, PL 93-380.

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

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

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 any or all of this information be withheld from the public by making written request to the Admissions and Records Office. The request must be made by the last official day to register for a given session and applies to that session only. Directory information includes name; current and permanent address; telephone listing; date and place of birth; sex; marital status; country of citizenship; major and minor; semester hour load; classification; class schedule; eligibility for and participation in officially recognized activities and sports; weight and height of members of athletic teams; dates of attendance; degrees and awards received, with dates; previous educational agencies or institutions attended.

A student has the right to challenge records and information directly related to him or her if they are 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 Office of Admissions and Records.

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 dependency as defined by IRS.

Official Summons

An official summons takes precedence over other university activities of the student and should be answered promptly on the day and hour designated.

Discipline

It is assumed any student eligible for admission to the University is familiar enough with the ordinary rules of conduct for ladies and gentlemen to need no definite discipline regulations. The University reserves the right to place on disciplinary probation or to dismiss any student at any time for sufficient cause.

Disciplinary procedures, specific University rules and regulations, and statements of student rights and responsibilities are published each year in the Student Handbook. Copies of the Conduct Code are available in the office of Student Development.

Penalty for False Statements

A student who makes a false statement to any university official 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 Regulations

At registration, each student who pays the necessary fee is issued a car decal which permits parking on the campus. This decal is numbered and is to be placed in a specific place on the back window 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 Office of Admissions and Records. 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 Office of Admissions and Records and in the Office of the College of Graduate Studies.

Change of name due to marriage, or correction of name because of spelling errors, may be made by completing a name change card at the Office of Admissions and Records. 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 confidential folder.



The College of Graduate Studies

History

The College of Graduate Studies was instituted in the 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, 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 for 1974. In 1975, master's degrees in music, music education and home economics were initiated, and the degree Master of Engineering Management was begun in 1983. Computer Science was added in 1984.

Objectives

The objectives of the College of Graduates 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 making students responsible for their own scholarship.

Degrees Offered

Master of Arts

- Master of Arts in English
- Master of Arts in History
- Master of Arts in Political Science

Master of Business Administration

Master of Education

- Master of Education in Elementary Education
- Master of Education in Guidance and Counseling
- Master of Education in Secondary Education
- Master of Education in Special Education
- Master of Education in Supervision
- Master of Education in School Administration

Master of Engineering

Master of Engineering Management

Master of Engineering Science

Master of Music

Master of Music Education

Master of Public Administration

Master of Science

- Master of Science in Biology
- Master of Science in Chemistry
- Master of Science in Computer Science
- Master of Science in Health and Physical Education
- Master of Science in Home Economics
- Master of Science in Mathematics
- Master of Science in Psychology
- Master of Science in Speech/Theater
- Master of Science in Speech Pathology/Audiology/Deaf Education

Doctor of Engineering

Enrollment

Admission to a Degree Program

1. For admission to a degree program the applicant must meet the following minimum standards and have submitted the following credentials to the office of Admissions and Records at least four weeks before registration.
 - A. An applicant must hold a bachelor's degree from an institution approved by a recognized accrediting agency.
 - B. An official transcript sent directly from each college previously attended.
 - C. Scores on the aptitude section of the Graduate Record Examination (GRE) are sent directly to the Office of Admissions and Records by the Educational Testing Service. The Lamar Testing and Counseling Center, located in the Wimberly Student Affairs Building, administers the GRE. Application forms and information about the GRE are available at this center. Applicants for the Master of Business Administration are not required to take the GRE, but are required to take the Graduate Management Admission Test. (See the College of Business section of this Bulletin for specific requirements).

NOTE: GRE, GMAT, or NTE scores more than five years old will be accepted only by special permission of the Graduate Dean/Director.

- D. Applicants for the Doctor of Engineering degree should write a letter to the Dean of the College of Engineering. This letter should include information about the applicant, engineering experience, present employment and chief interests. Applicants also should indicate what type of work they would like to undertake for their field study.
- E. An application for admission sent to the Office of Admissions and Records.
- F. The applicant's undergraduate grade point average and GRE scores must be above the minimum standards established by the College of Graduate Studies. For all students, except those wishing to pursue the Master of Business Administration degree, one of the following requirements for admission must be met:
 - (1) A minimum overall grade point average of 2.5 on a four point scale, and a minimum composite score, (verbal, quantitative and analytical), of 1100 on the aptitude section of the GRE.
 - (2) A minimum grade point average of 2.5 on the last 60 hours of undergraduate course work and a minimum composite score of 1100 on the aptitude section of the GRE.
 - (3) A grade point average lower than 2.5 but with a minimum score of 540 on an appropriate section or the GRE aptitude test. A composite score of 1100 is also required. Departmental requirements are as follows:

540 in Either V or Q	540 in V	540 in Q
Biology	English	Audiology
Education	History	Chemistry
HPED	Speech	Engineering
Home Economics	Speech Pathology	Mathematics
Music		Computer Science
Political Science		
Psychology		
Public Administration		

- (4) A minimum overall grade point average of 2.5 on a four point scale and a score at or above the 25th percentile on the appropriate Advanced Test of the GRE, (appropriate test will be determined by the department in which the graduate program is offered), or, in the case of students applying to the College of Education, a score at or above the 25th percentile on the appropriate Area Exam of the National Teachers Examination. This does not exempt students from submitting GRE aptitude scores before admission.

- (5) A minimum overall grade point average of 3.0 on all work and the recommendation of the department in which the graduate program is offered. This does not exempt students from submitting GRE aptitude scores prior to admission.
 - (6) The Graduate Council has approved higher standards for admission to some programs. These are stated in the particular departmental section of this Bulletin.
2. Students wishing to pursue the Master of Business Administration degree should refer to the College of Business section of the bulletin for specific requirements.
 3. Admission applications from international students are evaluated on an individual basis after the following information is received:
 - A. Two official transcripts from each college previously attended. Complete and official English translations must be furnished along with the certified copies of the transcripts.
 - B. Scores on the aptitude section of the GRE and scores on the Test of English as a Foreign Language, (TOEFL), must be submitted. All international students whose native language is not English are expected to score 500 or above on the TOEFL (550 for admission to the Master of Arts in English) and over 1100 on the aptitude section of the GRE. The application form, test scores, financial statement and complete educational records for international students must be on file by the dates indicated: term beginning in August, by June 15; January, by November 1; June by March 15.
 - C. An original statement of financial resources. The University provides a form for this purpose. Other forms will not be accepted.
 4. Any other applicant whose native language is not English and who attended foreign secondary schools, colleges, or universities must submit TOEFL scores of 500 or above in addition to the requirements stated above. Individual departments may require even higher scores.
 5. International students who are assigned to ESL courses must be enrolled in ESL courses every semester or term until they receive a grade of "S" Students will not be admitted to candidacy or allowed to graduate until this requirement has been completed.
 6. A student who wishes to pursue graduate work in any area for which he/she has not had the prerequisites will be required to make up deficiencies as required by their major department. In general, the student is required to have a minimum of 24 semester hours, (12 on the junior-senior level), of undergraduate work in the subject chosen as the graduate major. For a graduate minor, 12 semester hours of undergraduate work are required.
 7. Admission to the College of Graduate Studies does not imply candidacy for a degree.
 8. The Dean of Admissions will notify the applicant of admission to the College of Graduate Studies. All transcripts, certificates, etc. become the property of Lamar University and are not returnable.
 9. The admission requirements stated above are minimum requirements for admission to the College of Graduate Studies. Applicants must also have the approval of the department in which the degree program is offered, and must meet the specific requirements of that department. Prospective students should consult the college/department section of this Bulletin for those requirements.

Post Baccalaureate Admission

1. Students who wish to take graduate courses but do not intend to work toward a particular graduate degree or who have not met all requirements for admission to the College of Graduate Studies, may be admitted as Post Baccalaureate students to one of the undergraduate colleges under the following conditions:
 - A. The applicant must hold the bachelor's degree.
 - B. The applicant must submit an application for admission to the Post Baccalaureate program.
 - C. The applicant must submit an official transcript from each college previously attended.

- D. The applicant must be approved for admission by the Dean of Admissions.
2. International students will not be admitted to the Post Baccalaureate Program.
3. If application for admission to a graduate degree program is received in a subsequent semester and requirements for admission to the College of Graduate Studies are completed, a maximum of 12 semester hours completed before full admission may be counted for degree credit with the approval of the department and the Graduate Dean.
4. No post baccalaureate student may apply more than 12 hours toward a graduate degree.
5. Post baccalaureate students are not permitted to enroll in business courses for graduate credit without the prior consent of the Coordinator of Graduate Studies, College of Business

Graduate Admissions Appeals Committee Procedures

1. Purpose and Composition
 - A. The Graduate Admissions Appeals Committee shall consider appeals by students who have been denied admission to the College of Graduate Studies by the Office of Admissions and Records.
 - B. The Committee is composed of seven members of the Graduate Faculty appointed by the Dean of the College of Graduate Studies in September of each academic year. Each academic College having graduate programs shall have one representative, except that Arts and Sciences shall have one from the Arts division and one from the Sciences division. Five members, not including the Chairman, shall constitute a quorum.
 - C. The Committee shall meet on the second Wednesday in October and on the first Wednesday in March; special meetings may be called by the Graduate Dean if necessary.
- II. Appeals Procedure
 - A. Before filing an appeal, the student shall consult with the Dean of Admissions and Records and with the Dean/Director of the College of Graduate Studies.
 - B. The student must request a hearing in writing from the Dean/Director of the College at least two weeks before the Committee's scheduled meeting date. This request shall state the grounds upon which the appeal is based. The student may also furnish other pertinent material (letters, statements, etc.) for inclusion in the appeals file. Such material must be provided at least one week prior to the scheduled meeting.
 - C. The Dean/Director will notify the Committee Chairman of the pending appeal(s) and the Chairman will arrange a time and place for the meeting. The Dean/Director will then inform the student(s).
 - D. The Dean/Director will forward copies of the appellant's academic records and other supporting documentation to the Chairman who will distribute the material to the Committee members at least 3 working days before the scheduled meeting.
 - E. The appellant may appear before the Committee to make a statement and to answer such questions as may be posed by the Committee members. The appellant may be accompanied by counsel or by witnesses to speak in the appellant's behalf. However, the appellant shall notify the Dean/Director of such participation at least 24 hours before the meeting.
 - F. The hearing shall be open to any interested parties. Following a full hearing, the Committee will meet in closed session to formulate its recommendations. Recommendations will be by majority vote with the Chairman voting only in case of a tie. The appellant shall be immediately informed of the Committee's recommendation.
 - G. A written recommendation and the reasons for such recommendation on each case will be forwarded to the Dean of the College within two working days. The Dean will make the final decision on the disposition of each case and will inform the student in writing one week after the hearing.
 - H. All relevant materials will be available to the appellant through the Dean of the

College, and will be maintained in the Graduate Office for one year. These materials will not be available for public inspection except with the written permission of the student involved.

- I. Copies of the Admissions Appeal Committee procedures and policies will be available in the Office of the Dean of the Graduate College, the Office of Admissions and Records, and the office of each academic dean.

Registration

1. A student who has been admitted to the College of Graduate Studies may register in August or January for the long sessions, or in June or July for the summer terms.
2. Graduate students who have completed all course work, but are working on their thesis, must register for 669A or 669B (Thesis) if they wish to obtain professional assistance from a faculty member.

College of Graduate Studies Regulations

NOTE; ALL GRADUATE STUDENTS ARE EXPECTED TO BE FAMILIAR WITH THE RULES AND REQUIREMENTS OF THE COLLEGE OF GRADUATE STUDIES AND OF THEIR PARTICULAR GRADUATE PROGRAM..

1. All course work applied toward a given degree, except the Doctor of Engineering, must be completed within a period of six years. This time limit applies to all work on the graduate level, including any work transferred from another institution. Time spent on active military service will not be included in the six-year limit.
2. No graduate student is permitted to take more than 15 semester hours of class work during one semester of the long term nor more than 12 semester hours of class work during the summer session of 11 weeks, (six semester hours each summer term.) A graduate student is permitted to take seven semester hours in a summer term if the course has a lab section. A full-time graduate student is defined as a student taking nine semester hours of graduate work, or enrolled in both 669A and 669B thesis during the same semester, or enrolled in Egr 662. Students taking 4-5 hours of graduate work per semester will be considered half-time graduate students; students taking 6-8 hours of graduate work will be considered three-quarter time graduate students.
3. With the approval of the head of the major department and the Graduate Dean, an undergraduate student within 12 semester hours of graduation may take a maximum of six semester hours of graduate courses to be applied toward the master's degree, provided the total academic load does not exceed 15 semester hours.
4. With the approval of the head of the major department and the Graduate Dean, a student may transfer up to six semester hours of graduate work completed at another institution. The student must have received grades of A, B, or S. S is defined as equivalent to an A or B, or acceptable for graduate study at the institution where the work was taken.
5. Over fifty percent of the total credit hours required for a degree must be taken on the Beaumont campus of Lamar University
6. A maximum of six semester hours of work done in institutes may be approved for graduate credit on a degree program.
7. 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 master's degree is sought.
8. A student may be required to drop a course or to withdraw from the University temporarily, or permanently, for any of the following reasons:
 - A. Academic work below the standard specified by the Graduate Council.
 - B. Academic dishonesty or misconduct on the part of the student.
9. The grading system for graduate students is A, B, C, D, F, I, S, U, Drop and Withdrawal. Graduate credit is allowed only for grades A, B, C and S. Failing grades for graduate students are D, F, and U. An overall grade point average of B (3.0) on all graduate work attempted is required for graduation; however, a thesis grade may not be averaged with course grades to provide the required 3.0 average. Incomplete work must be finished during the next long semester, or the Office of Admissions and Records will change the grade of I to the grade of F. Under unusual circumstances, the student may apply for an extension through the instructor. The extension may be granted by the Dean of the College of Graduate Studies.
10. A department may prescribe published academic requirements for its majors in addition to the minimum university grade point standard with the approval of the Dean of the College of Graduate Studies.
11. Faculty members above the rank of Instructor will not be permitted to work toward a graduate degree at Lamar University.
12. Resignation from the College of Graduate Studies should be made in writing to the Dean of the College of Graduate Studies.
13. The University reserves the right to change any of its rules, regulations or course requirements without notice.

Probation/Suspension Regulations

1. Grade point averages for graduate students are computed using all work taken for graduate credit at Lamar University, except 669 thesis courses. Transfer work applied toward a graduate degree is also used in computing grade point averages.
2.
 - a. When a graduate student with regular admission status falls below a 3.0 (B) average, the student is placed on academic probation. The student will be removed from probation only when all grade point deficiencies are removed.
 - b. Students who are on probation are not allowed to drop a course or to withdraw from school without written permission of the Graduate Dean/Director. Students on probation may not be admitted to candidacy or take comprehensive written or oral examinations.
 - c. No student who has any grade point deficiency (i.e., has less than a 3.0 average on all graduate work taken) may apply for graduation.
 - d. Students with a grade point deficiency of more than six grade points at the end of the Fall or Spring semester shall be suspended for the following semester. Suspension for the Fall semester may be removed if the student reduces the deficiency to six or less during the summer program.
 - e. The first academic suspension shall be for one long semester and the second suspension for two long semesters. Readmission will not be permitted after the third suspension.
 - f. Students suspended under this provision may be admitted to another department after they have completed their suspension, provided that they meet the prescribed standards and are accepted through the normal change of major procedure.
 - g. A department may require additional academic requirements for its majors with regard to probation, suspension, and dismissal from its program with the approval of the Dean of the College of Graduate Studies.
3.
 - a. Post baccalaureate students taking graduate course work are not subject to these regulations until they have been fully admitted to the College of Graduate Studies an to a degree program.
 - b. Students with a grade point deficiency of 6 grade points or less may be admitted to a degree program upon the recommendation of the department to which they are applying, but will be placed on probation by the Graduate College until the deficiency is completely removed.
 - c. Students with deficiency of more than 6 grade points may be admitted to a degree program, but will be suspended for the next long semester if the deficiency is not reduced to 6 or less at the end of the semester during which they were admitted.

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. A minimum of 18 semester hours of the required hours must be courses numbered 500 or above.
3. All candidates must pass a comprehensive oral examination if a thesis is written. If a thesis is not written, a comprehensive written or oral examination or a combination of both written and oral examinations is required.
4. 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. 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. 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 as follows: a minimum of 18 semester hours in 500 level engineering courses, including six semester hours in thesis; a minimum of nine semester hours in a combination of science and mathematics and three additional semester hours.

Master of Music (Performance)

1. Meet all general degree requirements.
2. Complete 30 semester hours of graduate work: twelve 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 39 semester hours of graduate work: eighteen 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 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. On approval by 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 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 500 and 600 level course work, excluding Egr 632 and Egr 662, beyond the equivalent of a master's degree will be required.
2. Satisfactorily pass candidacy examinations as required by the student's doctoral committee.
3. Complete a field study, normally 30 semester hours, involving some technological innovation.
4. Submit and defend a formal engineering report on the field study.

Admission to Candidacy

Master's Degree

1. Prior to the time a graduate student is admitted to candidacy, the head of the major department or a person designated by the head acts as the student's adviser.
2. A student must be admitted to candidacy after completing one-half of the course work, excluding the thesis, and after removing all undergraduate deficiencies. During this time the student must have demonstrated the ability and inclination to do graduate work before being admitted to candidacy. A student must have a 3.0 grade point average on all graduate work attempted before being admitted to candidacy.
3. The individual student is responsible for applying for Admission to Candidacy in the office of the head of the major department or college graduate coordinator.
4. A departmental recommendation concerning the applicant's degree plan and the appointment of an advisory committee is then submitted to the Dean of the College of Graduate Studies. If approved, the student is admitted to candidacy.
5. The graduate advisory committee will include a member of the graduate faculty designated as the supervising professor, chairman, or major professor, and two other members of the graduate faculty. The graduate advisory committee will assist in planning the remainder of the student's program, including revision of the degree plan or program of study, thesis title and thesis approval, type of research problem, and administration and evaluation of the final comprehensive examination. The Graduate Dean has the option of appointing additional members to an advisory committee.
6. Students must be admitted to candidacy before beginning their last 9 hours of course-work, and will not be admitted during the semester or summer at the end of which they intend to graduate. Exceptions will be made only in the case of fulltime graduate students who have taken a maximum load each semester they have attended Lamar. Such students must apply for candidacy before the 12th class day of the semester in which they intend to graduate.
7. Advanced GRE scores are required by specified departments.
8. Candidacy examinations are required by the Departments of Psychology and Biology.

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. Continuously pursuing the course work by earning at least three semester hours credit in two consecutive long terms. Failure to do so will require the student to make application to the graduate engineering faculty for permission to continue.
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 if 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.

Advisory Committees

As noted above, members of advisory committees are appointed by the Graduate Dean at the time the student is admitted to candidacy. After admission to candidacy, but before the date of the final examination, the student may request a change in the committee composition with the approval of the supervising professor and one other committee member. Should the supervising professor and/or another committee member 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 optional in Master of Arts degree plans and may be a departmental requirement or option in other programs. A student who writes a thesis must:

1. Register for the thesis course and begin research with the approval of the student's graduate advisor. The first registration is for Thesis Course 699A; subsequent registrations are for Thesis Course 669B. "NG" (No Grade) is assigned each semester until the thesis is finally approved.
2. Register for a thesis course each semester or term the student works on research or writing.
3. Secure a copy of the approved manual of instructions for preparing a thesis from the Graduate Office and follow it explicitly.
4. Write a thesis under the direction of the supervising professor. The thesis must be approved by the student's advisory committee, the department head, the academic dean, and the Graduate Dean. Six semester hours of credit will be granted for the successful completion of the thesis. No credit will be reported for the thesis course until the final copy of the thesis has been approved.
5. Submit a single, unbound copy of the thesis to the Dean of the College of Graduate Studies at least two weeks before the date of the oral examination, and not less than 30 days prior to the expected date of graduation.
6. Submit three copies, (four if a personal copy is desired), of the finished thesis to the Graduate Dean no less than 10 days before the graduation date.
7. Submit abstracts of the thesis as required for publication in Dissertation/Thesis Abstracts published by University Microfilms.
8. Pay thesis binding and abstract publication fees to the Lamar Bookstore no less than 10 days before the graduation date.

Final Examination

1. Each candidate for a master's degree is required to pass a final oral or written examination. This examination must be taken at least 15 days before conferral of the degree.

2. A student presenting a thesis as a part of the degree requirement must be enrolled and take an oral examination. This examination is confined to the thesis and background subject matter pertaining to the thesis.
3. A candidate not presenting a thesis as a part of the degree requirement must take a written or oral examination, or a combination of both written and oral examinations. The scope of this examination is determined by the student's advisory committee.
4. If all requirements for graduation except the comprehensive examination are completed during a semester for a nonthesis program, the oral or written examination may be administered the following semester without the student being enrolled in the College of Graduate Studies.
5. All oral examinations (thesis or non-thesis) must be scheduled in the Office of the Graduate Dean at least one week prior to the date of such examination. The Dean may attend or may send a representative to attend.
6. Written comprehensive examinations will be held in accordance with the following schedule.

Fall Term	First Thursday in November
Spring Term	First Thursday in April
Summer I	Fourth Thursday in June
Summer II	Fourth Thursday in July

NOTE: The College of Business will give written examinations only once in the summer. This administration will be on the last Monday of Summer I. If this date conflicts with the July 4 holiday, the examination will be held on the last Monday in June.

7. All oral examinations (thesis or non-thesis) will be scheduled as follows:

Fall Term	First Monday in November through the First Friday in December
Spring Term	First Monday in April through the First Friday in May
Summer Term	Last Monday in June through the Last Friday in July
8. Failure to pass a final written or oral examination in three attempts will result in permanent suspension from the degree program. The examination may be taken only once each term. Summer is considered as one term. Students suspended under this provision may be admitted to another degree program or may be admitted as Post Baccalaureate students provided they meet the prescribed standards and are accepted through the usual graduate change of major procedure.

A department may prescribe published academic requirements for its majors in addition to the minimum university final examination standards with the approval of the Dean of the College of Graduate Studies.

Graduation

1. A candidate for the master's degree or Doctor of Engineering must file an application for graduation in the office of the Graduate Dean. This application must be made in accordance with the calendar published in this bulletin.
2. The student is responsible for making the application, for securing official advice about study plans, and for checking compliance with all degree requirements with the office of the Graduate Dean.
3. Candidates for graduate degrees must be present at graduation ceremonies unless they have been excused by the Graduate Dean. Requests to receive a degree in absentia must be filed in writing in the Graduate Dean's office at least four weeks before the commencement date.



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, government and history; to the Master of Science degree in the fields of biology and chemistry; and to the Master of Public Administration degree. In addition, graduate study is available in geology, physics 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; 2) have completed a minimum of one semester of organic chemistry; 3) remove any deficiencies as provided in the section on admission; 4) score a total of 950 (Verbal plus Quantitative Sections) on the Graduate Record Examination, or if V + Q score falls between 720 and 949, receive a majority vote 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. Additional specific requirements are:

1. Thirty-three hours of graduate credit which may include a maximum of 16 semester hours in approved 400G level courses with augmented requirements. All course work will be in biology. Exceptions must be approved by major advisor and head of department.
2. Submit a written proposal for the thesis. After the thesis proposal is written, but before actual research is begun, take an oral examination before the biology graduate faculty over general biological concepts and on the experimental design of the proposed thesis and related disciplines. Weaknesses shown by this examination will result in recommended remedial formal course work or informal study, and a second exam will be held over these areas. Failure of the second exam results in rejection. The preliminary examination must be completed within the first two years of graduate study.
3. Candidates are expected to attend 511 Graduate Seminar each semester they are enrolled for their professional development.

Graduate Faculty

Assistant Professor David L. Bechler
Behavior, ichthyology
Assistant Professor Wayne W. Carley
Physiology
Assistant Professor Michael W. Haidak
Genetics, mammology
Professor Richard C. Harrel
Limnology, environmental science
Assistant Professor Madelyn D. Hunt
Medical microbiology, epidemiology
Associate Professor Phillip Malnassy
Botany, plant physiology

Professor J. Leon McGraw, Jr.
Cellular biology, invertebrate zoology
Professor Jed J. Ramsey
Ornithology, comparative physiology
Associate Professor William C. Runnels
Algology, marine biology
Assistant professor John T. Sullivan
Parasitology.
Professor Michael E. Warren
Entomology, mosquito biology

Biology Courses

510	Materials and Techniques of Research	1:1:0
	Survey of laboratory and library research techniques, instrumentation and materials requisite to scientific investigation. Required of all entering graduate students.	
511	Graduate Seminar	1:1:0
	Current topics in biological research. May be repeated for credit.	
531	Seminar in Biological Sciences	3:3:0
	A resource area course for those seeking the M.Ed. degree and teaching at the elementary and junior high level. Topics include modern biological concepts and demonstrations of how these concepts may be applied to varied grade levels. Emphasis is placed on practical application in the classroom.	
540	Ornithology	4:3:3
	Natural history, taxonomy and ecology of birds. <i>Prerequisite: Bio 440.</i>	
541	Animal Behavior	4:3:3
	An analysis of the development and significance of various behavior patterns in animals from an evolutionary point of view.	
542	Mycology	4:3:3
	Isolation, cultivation and identification of fungi with special emphasis on those of economic importance.	
543	Ichthyology	4:3:3
	Natural history, taxonomy and ecology of freshwater and marine fishes. Required field trip.	
544	Herpetology	4:3:3
	Natural history, taxonomy and ecology of amphibians and reptiles. Required field trip.	
545	Mammalogy	4:3:3
	Natural history, taxonomy and ecology of mammals. Required field trip.	
546	Marine Invertebrate Zoology	4:3:3
	Field study and identification of area species; current research. Required field trips. <i>Prerequisite: Bio 346 or 445.</i>	
547	Ecology of Polluted Waters	4:3:3
	Analyses of effects of water pollutants on aquatic ecosystems. <i>Prerequisite: Bio 443.</i>	
548	Helminthology	4:3:3
	Biology of free-living and parasitic worms. <i>Prerequisite: Bio 346 or 441.</i>	
549	Comparative Physiology	4:3:3
	Fundamental physiological processes in animals from the phylogenetic viewpoint. <i>Prerequisite: Bio 344, Chm 342.</i>	
560	Field Biology	6:A:A
	Basic environmental relationships and natural history of plants, invertebrate and vertebrate animals. Laboratory includes extensive field trips for the study and collection of organisms in their natural habitat. Offered summers only. <i>Prerequisite: Bio 345. 20 hours credit in Biology and consent of instructor.</i>	
5101, 5201, 5301, 5401	Special Topics	1-4:A:0
	Research in areas other than thesis. <i>Prerequisite: Approval of graduate advisor. May be repeated when topic changes.</i>	
669A-669B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

From the list below, a maximum of 16 semester hours of 400G level courses with augmented requirements may be taken for graduate credit, subject to approval by the graduate advisor and department head. Course descriptions may be found in the Bulletin of Lamar University.

440 Ornithology

441 Parasitology

442 Entomology

443 Limnology

444 Vertebrate Natural History

445 Marine Biology

- 446 Ecology
- 447 Cellular Biology
- 449 Protistology
- 460 Field Biology
- 4302 Cellular Physiology
- 4303 Principles of Electron Microscopy
- 4304 Electron Microscope Techniques
- 4402 Taxonomy of Vascular Plants

Department of Chemistry

The Department of Chemistry 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. 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.

Students working toward the graduate degree in chemistry will take a set of four proficiency examinations, one in each of the fields of chemistry; analytical, inorganic, organic and physical. These examinations are taken on entrance and are offered in the fall and again during the beginning of the spring semester. The results of these examinations are used for orientation and guidance.

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:

1. Fifteen to 18 semester hours of course work in Chemistry which must include Chm 531, 533, 535, 537 and at least one 500 level Selected Topics course in Chemistry with a grade point average of 3.0 B in these courses.
2. Presentation of a thesis.
3. Six to nine additional semester hours of 400G or 500 level courses in an approved field of study.
4. A reading knowledge of a modern foreign language (German, French or Russian) or competence in computer science.
5. Examination results on the chemistry section of the GRE must be submitted before graduation.

Graduate Faculty

Associate Professor Hugh A. Akers.
Biochemistry
Professor Margaret D. Cameron
Organic chemistry
Associate Professor Kenneth L. Dorris
Physical chemistry

Professor Keith C. Hansen
Organic chemistry
Professor John P. Idoux
Organic chemistry
Professor J. Dale Ortego
Inorganic chemistry
Professor John A. Whittle
Organic chemistry, biochemistry

Chemistry Courses

531	Advanced Analytical <i>Prerequisite: Graduate standing or consent of instructor.</i>	3:3:0
533	Advanced Inorganic <i>Prerequisite: Graduate standing or consent of instructor.</i>	3:3:0
535	Advanced Organic <i>Prerequisite: Graduate standing or consent of instructor.</i>	3:3:0

537	Advanced Physical	3:3:0
	<i>Prerequisite: Graduate standing or consent of instructor.</i>	
539, 569	Graduate Problems in Chemistry	3 or 6:A:0
	May be repeated for credit. Techniques of research under close supervision of instructor; individual consultations; reports. May not be substituted for required courses.	
	<i>Prerequisite: Graduate standing and consent of instructor and department head.</i>	
25101, 5201, 5301, 5401, 5501, 5610	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.	
	<i>Prerequisite: Departmental approval.</i>	
5311	Selected Topics in Analytical Chemistry	3:3:0
	May be repeated for credit when topic varies. Description of course content will appear in schedule of classes.	
	<i>Prerequisite: Chm 531 or consent of instructor.</i>	
5331	Selected Topics in Inorganic Chemistry	3:3:0
	May be repeated for credit when topic varies. Description of course content will appear in schedule of classes.	
	<i>Prerequisite: Chm 535 or consent of instructor.</i>	
5352	Modern Synthetic Organic	3:3:0
	Selected topics in modern synthetic organic chemistry.	
	<i>Prerequisite: Graduate standing.</i>	
5371	Selected Topics in Physical Chemistry	3:3:0
	May be repeated for credit when topic varies. Description of course content will appear in schedule of classes.	
	<i>Prerequisite: Chm 537 or consent of instructor.</i>	
669A-669B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

Below is the list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

411G Chemical Literature
 412G Senior Seminar
 430G Organic Polymers
 433G Modern Physical
 436G Inorganic
 442G Biochemistry II
 444G Qualitative Organic Analysis
 446G Instrumental Methods of Analysis

Department of English and Foreign Languages

Degree Requirements

The degree of Master of Arts in English requires the completion of 30 semester hours of graduate work: 18 in English, six in thesis and six in an approved minor. With the approval of the head of the Department of English, 12 semester hours of course work may be substituted for the thesis. At least 18 semester hours, including the thesis, must be in English courses numbered 500 or above. The minor must be approved by the head of the Department of English, or with the department head's approval, six additional hours in English may be substituted for the minor. International students must score 550 on the TOEFL before admission.

Professional Certification Requirements (Texas) in English

The plan for the Professional Certificate—Secondary requires the completion of 36 semester hours of graduate work: 18 in English, six in resource areas and twelve in approved teacher education. At least 12 semester hours must be in English courses numbered 500 or above. The courses in the resource areas must be approved by the head of the Department of English; such approval will be given on the basis of the support they can give to the major and on the specific needs of the graduate student. The twelve semester hours of teacher education must be taken in courses specifically approved for the Professional Certificate Secondary.

Depending on the student's undergraduate course work, the graduate program in English will include English 4327G, 533, 539, and one course from either 535, 536, 537, 538, or 5311.

Graduate Faculty

Associate Professor Christopher P. Baker British Literature, Medieval Literature	Professor Robert C. Olson Eighteenth century British literature
Professor Robert J. Barnes British and Continental literature: 1840 to the present	Associate Professor Annette E. Platt Eighteenth Century and Romantic British Literature
Assistant Professor Lloyd M. Daigrepoint American literature before 1900	Associate Professor R. Victoria Price English as a Second Language, Modern American and British Literature
Professor Winfred S. Emmons, Jr. Middle English language and literature, American literature	Professor Henry B. Rule American literature: 1840 to the present
Professor Marilyn D. Georgas Renaissance and Victorian literature	Professor Arney L. Strickland Linguistics and English education
Associate Professor Kirkland C. Jones Medieval and Renaissance literature	Associate Professor Charles T. Summerlin American Literature, Literary criticism

English Courses

533	Special Topics in Old and Middle English Language and Literature	3:3:0
	Intensive study of the language necessary for reading literature of the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing and Eng 430G or 431G.</i>	
535	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. <i>Prerequisite: Graduate standing.</i>	
536	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. <i>Prerequisite: Graduate standing.</i>	
537	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. <i>Prerequisite: Graduate standing.</i>	
538	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. <i>Prerequisite: Graduate standing.</i>	
539	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. <i>Prerequisite: Graduate standing.</i>	
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.	
669A-669 B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

Below is the approved list of 400 level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

- 430 History of the English Language
- 432 Studies in Sixteenth Century Literature
- 434 Shakespeare
- 435 Studies in Seventeenth Century Literature

- 438 Studies in Eighteenth Century Literature
- 439 Studies in Romantic Literature
- 4311 Studies in Victorian Literature
- 4317 Contemporary Drama
- 4318 Contemporary Poetry
- 4319 Contemporary Fiction
- 4322 Russian Literature
- 4325 Language: Sound and Meaning
- 4326 Expository Writing
- 4327 Bibliography and Methods of Research
- 4328 Early American Literature
- 4329 Modern American Literature
- 4333 Studies in a Particular Author
- 4334 Critical Studies in Literature
- 4336 Directed Studies in American Literature
- 4337 Directed Studies in British Literature
- 4345 Writing Seminar
- 4355 Editing Technical Communications

English as a Second Language

Below is the approved list of 400 level courses applicable to the ESL endorsement program; these courses may be taken for graduate credit subject to approval by the appropriate graduate advisor.

- 431 The Teaching of English as a Second Language
- 432 Foundations in Teaching ESL
- 433 Psycholinguistics
- 434 Introduction to Linguistics

Department of Geology

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

Graduate Faculty

Professor William H. Matthews III
Paleontology, stratigraphy

Professor William R. Pampe
Paleontology, meteorology, stratigraphy

Geology Courses

- | | | |
|------|---|-------|
| 530 | Survey of Earth Science
A survey of earth materials and processes, earth history, astronomy and meteorology. Identification of mineral, rock and fossil specimens and cloud formations. Demonstrations of topographic, geologic and weather maps. Field trip required. | 3:3:0 |
| 532 | Environmental Geology
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. | 3:3:0 |
| 534 | Fossils and Earth History
The evolution and history of life as recorded by fossils. Laboratory identification of common fossils. Demonstration of "hands-on" approach to the use of materials that illustrate the fossil record. Field trip required. Term paper based on laboratory, library or field studies. | 3:3:0 |
| 5601 | Institute in Earth Science
Summer, in-service or other institute for earth science teachers patterned after the inquiry-oriented Earth Science Curriculum Project approach to earth science. The course includes laboratory and field investigations in astrospace science, geology, meteorology and oceanography and "hands-on" experience with rocks, minerals, fossils, maps and other earth science materials and techniques. Field trips required. | 6:6:9 |

Department of History

Degree Requirements

The degree of Master of Arts in History requires the completion of 30 semester hours of graduate work: 18 in history, six in thesis and six in an approved minor. At least 12 semester hours, exclusive of thesis, must be in history courses numbered 500 or above, and six of these must be in seminar courses. With the approval of the head of the Department of History, 12 semester hours of course work may be substituted for the thesis. In this latter program, at least 21 semester hours of course work must be in courses numbered 500 or above, and nine of these must be in seminar courses. The minor must be approved by the head of the Department of History; such approval will be given on the basis of the support the minor can give to the major. With the approval of the head of the Department of History, six additional hours in history may be substituted for the minor.

Graduate Faculty

Professor Adrian N. Anderson
United States history, revolution, early national

Assistant Professor Ronald H. Fritze
Tudor-Stuart England

Professor Howell Holmes Gwin, Jr.
European history, ancient, classical and medieval

Professor Paul E. Isaac
United States history, recent, the West

Professor Howard Mackey
Modern European history, Great Britain

Professor L. Wesley Norton
United States history, social and intellectual

Associate Professor John M. Carroll
United States history, diplomatic, the South

Professor R. Beeler Satterfield
United States history, middle period

Professor John W. Storey
United States history, urban, social and intellectual

Professor Walter A. Sutton
United States history, diplomatic

Professor Ralph A. Wooster
United States history, Civil War, the South

History Courses

530	Classical and European Historiography <i>Prerequisite: Graduate standing.</i>	3:3:0
531	American Historiography <i>Prerequisite: Graduate standing.</i>	3:3:0
532	Readings in American History Course may be repeated for a maximum of six semester hours credit when topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
533	Readings in European History Before 1815 Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
534	Readings in European History Since 1815 Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
535	Seminar in Texas History Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
536	Seminar in Southern History Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
537	Seminar in United States History Course may be repeated for a maximum of six semester hour credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
539	Seminar in the American West Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0

5311	Seminar in European History Course may be repeated for a maximum of six semester hours credit when the topic varies. <i>Prerequisite: Graduate standing.</i>	3:3:0
5312	Directed Readings in History Directed readings arranged with instructor in area of mutual interest. Will not apply to 500 level course requirement in program. Under limited and special circumstances, course may be repeated but only with specific approval of History Graduate Committee.	3:A:0
669A-669B	Thesis <i>Prerequisite: Approval of graduate advisor.</i>	6:A:0

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

- 430G Era of the Renaissance and Reformation
- 431G The Old Regime
- 432G The French Revolution and Napoleon
- 433G Russian and Eastern Europe to 1860
- 434G Nineteenth Century Europe
- 435G Twentieth Century Europe
- 436G The American West
- 437G The Old South
- 438G The New South
- 4311G Colonial America
- 4312G The American Revolution
- 4313G The Age of Jackson
- 4314G The American Civil War
- 4315G Reconstruction and Industrialization: The United States from 1865 to 1898
- 4316G World Power and Reform: The United States from 1898 to 1920
- 4317G New Deal and World Leadership: The United States from 1920 to 1940
- 4318G Classical Civilization
- 4319G Medieval Civilization
- 4321G The Far East to 1800
- 4322G The Far East Since 1800
- 4323G Latin America to 1810
- 4324G Latin America Since 1810
- 4325G Tudor and Stuart England
- 4326G Eighteenth Century England
- 4327G Victorian England
- 4328G Contemporary America: The United States Since 1940
- 4329G Modern European Intellectual History
- 4331G Russia Since 1860
- 4332G Afro-American History to 1865
- 4333G Afro-American History Since 1865
- 4334G Early National Period
- 4335G Topics in History
- 4336G Ancient Near East

Department of Physics

The Department of Physics offers the following graduate courses to provide an area of specialization for the Master of Education degree in Secondary Education and as support to other advanced degree programs. For the M.S. degree in Mathematics, a nine semester-hour minor in Physics is accepted; in addition, the subject of the thesis may be mathematical problem in physics.

Graduate Faculty

Associate Professor Hugh O. Peebles, Jr.
Astrophysics
Professor Joseph F. Pizzo, Jr.
Theoretical physics, relativity

Professor Carl J. Rigney
Thermal physics

Physics Courses

- | | | |
|---------------------------------|--|-------------|
| 5101, 5201, 5301, 5401 and 5601 | Institute in Physics | 1-6:1-6:2-4 |
| | Designed to provide credit for participation in summer, in-service or other institutes. 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. | |
| 530 | Seminar in Physical Science | 3:3:0 |
| | Designed for non-science majors. Measurement, light, the solar system and stars, force and motion, work and energy, heat, weather, lightning, electric charge and current, magnetism, batteries, atoms and molecules. Credit in this course may not be applied toward a degree in science, engineering or mathematics. | |
| 531 | Theoretical Physics | 3:3:0 |
| | The application of typical mathematical techniques, with emphasis on field and potential concepts. | |
| 532 | Relativity | 3:3:0 |
| | Brief introduction to the special and general theory followed by detailed study of a particular topic. | |
| 533 | Seminar | 3:3:0 |
| | Selected topics pertaining to the research reported in contemporary publications. Course may be repeated for credit when the topic varies, but only six semester hours credit in this seminar may be applied toward a degree. | |

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

- 431G Classical Mechanics
- 432G Introductory Quantum Mechanics
- 433G Solid State Physics
- 436G Nuclear Physics
- 437G Astrophysics
- 448G Optics

Department of Political Science

The Department of Political Science offers programs of study leading to the Master of Public Administration degree and the Master of Arts in Political Science degree. Persons seeking admission to either program must meet the general requirements for admission as outlined in the graduate catalog.

Degree Requirements

The degree of Master of Public Administration requires the completion of 36 semester hours of graduate hours of graduated work: 21 in the core curriculum (POLS 535, 5351, 5352, 5353, 5354, 5358, and 5359) and 15 from an approved list of courses. Applicants must have completed the following undergraduate courses or their equivalents: introduction to public administration (3 semester hours); urban politics (3 semester hours), and statistics for social scientists (3 semester hours). Students must pass both written and oral comprehensive final examinations.

The degree of Master of Arts in Political Science requires the completion of 30 semester hours of graduate work: 18 in political science, six in thesis and six in an approved minor. With the approval of the head of the Department of Political Science 12 semester hours of course work may be substituted for the thesis. With the approval of the head of the Department of Political Science, 6 additional hours in political science may be substituted for the minor. At least 18 semester hours, including the thesis, must be in political science courses numbered 500 or above, and Political Science 530 is required for the degree. Applicants for the Master of Arts in Political Science must have completed a bachelors degree in

political hours in political science or earned credit in 24 undergraduate semester hours in political science, 12 of which must be on the junior or senior level.

Graduate Faculty

Assistant Professor Elbert T. Dubose, Jr.
Public administration
Assistant Professor Gaither D. Loewenstein
public policy, policy analysis, planning
Professor William M. Pearson
Public administration

Associate Professor L. Thomas Sanders
Urban politics, public policy
Associate Professor Ronald Stidham
Constitutional law, judicial process

Political Science Courses

- 530 **Scope and Methods of Political Science** 3:3:0
The study in depth of selected topics concerning the theoretical foundations underlying a scientific approach to the study of political phenomena and analytical techniques to be applied to a study of political behavior.
Prerequisite: Graduate standing.
- 531 **Seminar in Political Theory** 3:3:0
Selected issues in political thought with emphasis on the classical thinkers and their relationship to contemporary political, economic and social problems.
Prerequisite: Graduate standing.
- 532 **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 head of the Department of Government.
- 534 **Seminar in American Government and Politics** 3:3:0
A survey of the literature in the field of American government and politics. Classical and contemporary works are examined, with emphasis on the modern approaches to the study of American government and politics.
Prerequisite: Graduate standing.
- 535 **Seminar in 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 **Seminar in Personnel Administration** 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 **Seminar in Fiscal Administration** 3:3:0
The study of formulation and administration of government budgeting, including the role of the budget in the policy process, approaches to budget formulation and analysis, the development of the PPB approach and other basic concepts and practices in government budget and finance administration.
Prerequisite: Graduate standing.
- 5353 **Seminar in 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 **Seminar in 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.
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 governmental agency if they elect three additional hours from the approved program courses.
Prerequisite: Graduate standing.

- 5359 **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 governmental agency if they elect three additional hours from the approved program courses.
Prerequisite: Gov 5358 and graduate standing.
- 537 **Seminar in Comparative Study of Political Systems** 3:3:0
Study of the theory and method of comparative political analysis; systematic examination and explanation of the structure and function of Western and non-Western political systems.
Prerequisite: Graduate standing.
- 669A-669B **Thesis** 6:A:0
Prerequisite: Approval of graduate advisor.

Department of Sociology, Social Work, and Criminal Justice

The department of Sociology, Social Work, and Criminal Justice offers Soc 432, Sociology of Education as a 400G course in support of the Master of Education degree program. A description of the course may be found in the Bulletin of Lamar University.

Graduate Faculty

Professor Wayne C. Seelbach



College of Business

The College of Business offers a program of study leading to the Master of Business Administration degree (MBA). The objective of the MBA Program at Lamar University is to provide intensive, rigorous training to produce managerial professionals with a thorough conceptual understanding of the economic, legal, and ethical environment of public and private sector organizations and the capability of applying analytical, problem solving skills to a broad range of decision situations that may arise within one or a combination of functional areas within the organization.

Students with degrees in **non-business** fields are encouraged to earn the Master of Business Administration degree. Students are encouraged to make an appointment with the Coordinator of Graduate Studies a **minimum of 60-90 days in advance** of the semester in which they wish to enroll.

Admission

Persons seeking admission to this program must meet the general requirements for admission outlined elsewhere in this 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, regardless of GPA. Students who make 400-450 and meet either standard "a" or "b" above will be admitted conditionally pending satisfactory completion of 9 hours with a "B" (3.0) average. A student who makes less than 400 on the GMAT will not be admitted regardless of GPA.

3. A student whose native language is not English is expected to score over 500 on the TOEFL.
4. Post Baccalaureate students are not permitted to enroll in Business courses for graduate credit without the prior consent of the Coordinator of Graduate Studies.

The MBA Program is a two year course of study for students pursuing the degree on a full-time basis. The degree requirements follow.

Degree Requirements

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

Acc 530 Financial Accounting: Concepts and Procedures
 Eco 530 Foundations of Economics
 BLW 530 The Legal Environment of Business
 BAC 530 Statistical Analysis for Decision Making
 Mgt 530 Foundations of Management
 Mgt 531 Management Science and Information Systems
 Mgt 532 Business Problems and Organization
 OAS 530 Administrative Communications
 Mkt 530 Marketing Concepts
 Fin 530 Financial Management

Note:

1. Please see course descriptions for prerequisites for each course.
2. Students with previously approved academic training may have some or all of the first year courses waived. (See Coordinator of Graduate Studies, College of Business prior to enrollment.)

3. Students must have met the entrance requirements for the MBA Program to enroll in first year courses. Any exceptions must have the prior approval of the Coordinator of Graduate Studies, College of Business.
4. First year courses may not be taken as second year courses electives

Second Year Courses

Note:

1. All first year courses must be completed before beginning the second year courses.
2. The candidate for the MBA degree may follow either of two plans described below.

Plan I: Thesis Route

Acc 537 Managerial Accounting
Mgt 533 Seminar in Management
Eco 531 Seminar in Monetary and Fiscal Policy
Fin 532 Problems in Business Finance
Mkt 531 Seminar in Marketing
BAC 531 Advanced Statistical Theory and Analysis for Business
Eco 538 The Environment of Business
Three (3) semester hours of approved electives
BA 669A Thesis
BA 669B Thesis

An oral defense of the thesis follows the completion of the thesis project.

Plan II: Non-Thesis Route

Acc 537 Managerial Accounting
Mgt 533 Seminar in Management
Eco 531 Seminar in Monetary and Fiscal Policy
Fin 532 Problems in Business Finance
Mkt 531 Seminar in Marketing
BAC 531 Advanced Statistical Theory and Analysis for Business
Eco 538 The Environment of Business
Mgt 538 Business Research
Twelve (12) semester hours of approved electives
Written Comprehensive Exams follow completion of course work

Graduate Faculty

Associate Professor Charles L. Allen Economics	Professor Hi K. Kim Economics
Professor Richmond O. Bennett Accounting	Professor Charles D. McCullough Marketing
Associate Professor Richard W. Brunson Management	Assistant Professor Carl B. Montano Economics
Associate Professor Melvin F. Brust Management and Finance	Professor Sam F. Parigi Economics
Professor Richard T. Cherry Finance	Assistant Professor Donald Price Economics
Assistant Professor Jai-Young Choi Economics	Professor John A. Ryan Marketing, Dean of the College
Assistant Professor Daniel Corrigan Marketing	Professor Larry W. Spradley Business statistics
Professor Nancy S. Darsey Office administration	Associate Professor Robert A. Swerdlow Marketing, Coordinator of Graduate Studies
Assistant Professor Richard A. Drapeau Business Analysis	Professor Malcolm W. Veuleman Accounting
Assistant Professor Lynn Godkin Management	Professor Kathryn White Office administration
Professor Charles Hawkins Economics	Associate Professor Bobby E. Wooten Management
Associate Professor Betty S. Johnson Office Administration	
Professor Richard W. Jones Accounting	

Business Courses

Accounting courses will be selected from the following list:

- 530 **Financial Accounting: Concepts and Procedures** 3:3:0
 Intensive examination of financial accounting. Emphasis upon conceptual aspects obtained through the problem approach.
Prerequisite: Graduate standing.
- 534 **Seminar in Accounting** 3:3:0
Prerequisite: Graduate standing, Acc 530.
- 535 **Contemporary Accounting Theory** 3:3:0
 A comprehensive study of the contemporary approaches to the development of accounting theory. This will include a study of historical development as well as more recent contributions of present day scholars.
Prerequisite: Graduate standing, 12 hours of accounting to include two semesters of intermediate accounting.
- 536 **Advanced Accounting Problems** 3:3:0
 An intensive study of accounting techniques and problems with emphasis placed on the concepts of income determination, asset valuation and cost analysis. Contemporary developments are reflected through a study of research materials and professional publications.
Prerequisite: Graduate standing, undergraduate degree in accounting.
- 537 **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.
Prerequisite: Graduate standing, Acc 530.

Finance courses must be selected from the following list:

- 531 **Financial Management** 3:3:0
 Intensive study of financial theory and policy as related to capital budgeting, cost of capital, financial structure, dividend policy, and working capital management of business firms.
Prerequisite: Graduate standing, Fin 530.
- 532 **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, Fin 531 or consent of instructor
- 532 **Seminar in Finance** 3:3:0
 A comprehensive study of how financial problems affect all areas of business management. The case study approach is used to stimulate analysis and discussion of forms of organization, promotion of new firms, short-term and long-term sources of funds and financing, dividend policies, mergers, refinancing and recapitalization.
Prerequisite: Graduate standing, Fin 530.

Management courses must be selected from the following:

- 530 **Foundations of Management** 3:3:0
 A study of the basics of an operational theory and science of management emphasizing the essentials of the discipline most pertinent to practicing managers. The course presents various areas of management as a system and demonstrates how managing itself is part of a larger system interacting with a manager's total environment—economic, technical, social, political, and ethical. Also, the course stresses the practice of management concerning its activities which may be modified by contingencies and situations—the requirements and behavior factors which may be faced.
Prerequisite: Graduate standing, Acc 530, Eco 530.
- 531 **Management Science and Information Systems** 3:3:0
 A scientific approach to solving management problems and managing information systems. Special topics include applications taken from the areas of probability theory, linear programming, game theory, simulation, queuing theory, inventory theory, Markov chains and other areas of management science. A systematic exposure to the analysis design and implementation of Management Information Systems is covered.
Prerequisite: Graduate standing, BAC 530.
- 532 **Business Problems and Organization** 3:3:0
 Managerial decision making in the areas of marketing, finance, production and labor-management relations. General management perspectives are stressed in determining objectives, establishing policies and planning and organizing the use of facilities, materials and manpower; motivation of individuals and groups. The case-study approach is used.
Prerequisite: Graduate standing, Mgt 530, 531.

533 **Seminar in Management** 3:3:0
 A course designed to give students an integrated theory of management which incorporates the significant contributions of the various approaches. Research papers are presented by each student as an inquiry in depth of certain sub-theories.
Prerequisite: Graduate standing, Mgt 532.

538 **Business Research** 3:3:0
 The student will design and carry out an individual research project under the supervision of a faculty member. Emphasis will be placed on research design and methodology, sources of business and economic data and the use of quantitative techniques to achieve substantive research results.
Prerequisite: Graduate standing, Mgt 532

Marketing courses must be selected from the following:

530 **Marketing Concepts** 3:3:0
 Marketing orientation and concepts; marketing programs incorporating the societal perspective in formulating strategies for the development, pricing, channeling, and promotion of products and services to the customer.
Prerequisite: Graduate standing, Acc 530, Eco 530.

531 **Seminar in Marketing** 3:3:0
 An intensive study of specific marketing concepts, theories and strategies in the marketing effort. Emphasis is placed on reading from current journals and other related publications.
Prerequisite: Graduate standing, Mkt 530.

532 **Seminar in Current Marketing Problems** 3:3:0
 A comprehensive overview and critical analysis of selected current problems relating to the field of marketing.
Prerequisite: Graduate standing, Mkt 530.

533 **Marketing Thought and Theory** 3:3:0
 A study of the contributions of outstanding marketing scholars to marketing thought. An evaluation of the principles and theories in marketing from the social and the firm's point of view.
Prerequisite: Graduate standing, Mkt 530.

534 **Legal Aspects of Marketing** 3:3:0
 A study of governmental controls which are intended to promote the free enterprise system. Several Supreme Court cases which have affected marketing practices will be briefed.
Prerequisite: Graduate standing, Mkt 530.

Economics courses must be selected from the following list:

530 **Foundations of Economics** 3:3:0
 Comprehensive introduction to economic principles for MBA students who have not had Economics. Topics covered include macro, micro, and current economic issues.
Prerequisite: Graduate standing.

530I **Money and Capital Markets** 3:3:0
 Survey of the functions and performances of financial institutions; analysis of the sources and uses of funds in financial markets; market structures of interests rates; and flow of funds analysis.
Prerequisite: Graduate standing, Eco 530.

531 **Seminar in Monetary and Fiscal Policy** 3:3:0
 A study of the theory and practice of monetary management and the taxing-borrowing-spending programs of the government as they affect growth, output, employment, prices and resource allocation.
Prerequisite: Graduate standing, Eco 530.

533 **Contemporary Literature and Thought** 3:3:0
 Readings, special projects, studies and research in the current professional literature. The student will become acquainted with learned journals, economists, their current thinking, present issues and emphasis in the field.
Prerequisite: Graduate standing, Eco 530.

534 **Collective Bargaining** 3:3:0
 Background ideologies, contract provisions, current legal and social developments, public employment and international labor practices.
Prerequisite: Graduate standing, Eco 530.

537 **Managerial Economics** 3:3:0
 A study in depth of the principles and techniques of economic analysis applicable to the problems of business management.
Prerequisite: Graduate standing, Eco 530.

538 **The Environment of Business** 3:3:0
 The growth of industrial capitalism, corporate governance, government promotion and regulation of business, equal rights, consumerism, and the socio-economic-ethical-legal environments of business.
Prerequisite: Graduate standing, Eco 530

Administrative Service courses must be selected from the following:

- BAC 530 Statistical Analysis for Decision Making** 3:3:0
 Theory and applications of presenting and utilizing data for decision making in business situations. Topics include methods of gathering, presenting, and analyzing quantitative data. Theory and applications of probability, normal curve, sampling and sample design, statistical inference, and tests of hypothesis, payoff tables, chi-square, and analysis of variance, regression, and correlation analysis.
Prerequisite: Graduate standing.
- BAC 531 Advanced Statistical Theory and Analysis for Business** 3:3:0
 An advanced course in statistical theory and application of the quantitative techniques commonly used in business research and analysis. Topics include basic concepts of modern decision analysis; probability; parametric estimation; general hypothesis testing; design of experiments and sampling techniques; linear and non-linear, simple and multiple regression and correlation; and time-series analysis.
Prerequisite: Graduate standing, BAC 530 or equivalent.
- BAC 534 Advanced Statistical Analysis** 3:3:0
 Further development of the application of statistical methods to the process of making decisions in the face of uncertainty. The use of quantitative methods and models for management is emphasized. Topics include multiple correlations, sampling theory, queuing theory and statistical quality control.
Prerequisite: Graduate standing, BAC 530.
- BLW 530 The Legal Environment of Business** 3:3:0
 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, governmental regulations of business through administrative agencies.
Prerequisite: Graduate standing.
- OAS 530 Administrative Communication** 3:3:0
 Communication theory and practice with emphasis on variables affecting organizational communication. Intrapersonal, organization, and technological dimensions of communication.
Prerequisite: Graduate standing.
- OAS 531 Contemporary Problems in Business Education** 3:3:0
 Problems and materials in teaching skills subjects; analysis of various teaching techniques; examination of recent research and experimentation. When courses are conducted in sufficiently different areas and with the approval of the department head, participants may repeat the course for credit.
Prerequisite: Graduate standing and suitable background.

Thesis courses necessary for graduation under Plan I.

- BA 669A-669B Thesis** 6:A:0
Prerequisite: Approval of Coordinator of Graduate Studies.

Courses numbered 400 level with a G designation may be taken as electives in the MBA program. Courses taken at the 400G level must have the approval of the Coordinator of Graduate Studies and must be augmented by additional requirements. Course descriptions for 400 level courses are found in the *Bulletin of Lamar University*.



College of Education

Graduate degree and certification programs are offered by the Department of Professional Development and Graduate Studies.

Degrees Offered:

Master of Education in Elementary Education
 Master of Education in Guidance and Counseling
 Master of Education in School Administration
 Master of Education in Secondary Education
 Master of Education in Special Education
 Master of Education in Supervision
 Master of Science in Health and Physical Education
 Master of Science in Home Economics

Professional Certificates Available:

Counselor
 Educational Diagnostician
 Elementary Education
 Mental Retardation
 Mid-management Administrator (Principal)
 Reading Specialist
 School Superintendent
 Secondary Education
 Special Education Supervisor
 Supervisor
 Visiting Teacher

Master of Education (M.Ed.)

General Requirements

1. The student must fulfill the general requirements for admission and the general degree requirements that are stated elsewhere in this bulletin.
2. The applicant in elementary education must have completed 24 semester hours in education, including 12 semester hours in elementary education methods and materials courses.
3. The applicant in secondary education must have completed a minimum of 18 semester hours in education and hold a baccalaureate level teaching certificate or its equivalent in an approved discipline to be pursued at the graduate level, including a minimum of nine hours at the 300 level or higher.
4. The applicant in guidance and counseling, school administration, special education and supervision must hold a Provisional Teaching Certificate, or its equivalent.
5. The student in fields other than guidance and counseling and school administration may elect to write a thesis. If so, the student is required to complete a minimum of 30 hours in addition to a thesis.
6. The student who does not choose to write a thesis must earn a minimum of 36 hours of graduate credit and is required to complete successfully a written comprehensive examination.

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. **Specialization Area.** Six semester hours of courses must be taken for graduate credit from one or a combination of the following disciplines: history, English, foreign languages, mathematics, science, art, music, speech or health and physical education.

NOTE: To fulfill requirements concurrently for a Master's degree and for a Professional Certificate, a student may complete six additional hours in an area of undergraduate specialization and substitute these hours for six hours in the elective area. In all graduate programs, the student is urged to follow a thesis plan of six hours credit.

2. **Professional Development.** Six semester hours must be selected from the following courses,
 - Edu 531 Research (Required)
 - Edu 534 Advanced Study in Human Development
 - Edu 535 The Learning Process
 - Edu 537 Public School Curriculum
3. **Resource Area.** Twelve semester hours must be selected from the following courses, (nine semester hours if the student elects to write a thesis:)
 - Edu 536 Problems in Teaching Science and Social Studies in the Elementary School
 - Edu 538 Modern Mathematics in the Elementary School
 - Edu 539 Foundations of Reading
 - Edu 5303 Strategies for Individualizing Elementary Instruction
 - Edu 5310 Language Arts in the Elementary School
 - Edu 5329 Corrective Reading
4. **Electives.** Twelve semester hours, (nine semester hours if student elects to write a thesis,) from any of courses listed below or in a concentrated area.
 - A. **Reading Specialist**
 - Edu 539 Foundations of Reading
 - Edu 5301 Current Literature for Children and Adolescents
 - Edu 5302 Practicum: Diagnosis and Remediation of Reading Difficulties
 - Edu 5329 Corrective Reading
 - B. **Early Childhood Education**
 - Edu 4304G History and Philosophy of the Kindergarten
 - Edu 4305G Seminar in Early Childhood Educational Research
 - Edu 5351 Advanced Study in Early Childhood Curriculum
 - Edu 5352 Creative Activities in Early Childhood Education
 - C. **Supervision**
 - Edu 5334 Test and Measurements
 - Edu 5336 Leadership and Evaluation of Instruction
 - Edu 5337 Practicum and Seminar
 - Edu 5338 Instructional Supervision
 - D. **Special Education**
 - SpEd 5361 Survey of Learning Potentials of Exceptional Children
 - SpEd 5364 Behavior Modification and Contingency Management of Disabled Learners
 - SpEd 5365 Instructional Processes With Exceptional Children
 - SpEd 5366 Modification of Curriculum and Instruction for the Atypical Learner

Degree Plan in Elementary Education With Professional Certification in Reading

1. To fulfill requirements concurrently for a Master's degree and Professional Certification in Reading, the student:
 - A. Must meet general requirements for a Master of Education degree.
 - B. Must hold a valid Texas Provisional Elementary or Secondary Certificate.
 - C. Must have completed a minimum of three years of creditable classroom teaching.
2. The usual pattern of coursework is as follows:
 - A. **Professional Development Area.** Six semester hours required.
 - Edu 531 Research (Required)
 - Edu 534 Learning Process
 - Edu 535 The Learning Process
 - Edu 537 Public School Curriculum
 - B. **Resource Area.** Twelve semester hours required.
 - Edu 536 Problems in Teaching Science and Social Studies in the Elementary School
 - Edu 538 Modern Mathematics in the Elementary School Advanced Study in Human Development
 - Edu 535 The Learning Process
 - Edu 539 Foundations of Reading (Required)
 - Edu 5303 Strategies for Individualizing Elementary Instruction
 - Edu 5310 Language Arts in the Elementary School
 - Edu 5329 Corrective Reading (Required)
 - Edu 5340 Microcomputers for Teachers
 - C. **Specialization Area.** Six semester hours.
 - Soc 432G Educational Sociology
 - Eng 4312G Study in Language and Linguistics
 - D. **Additional Requirements:** Twelve semester hours.
 - Edu 5301 Current Literature for Children and Adolescents (Required)
 - Edu 5302 Practicum: Diagnosis and Remediation of Reading Difficulties (Required) Six (6) semester hours to be selected from:
 - Edu 5319 Problems in Secondary School Instruction
 - Edu 5320 Adolescent Development
 - Edu 5321 Strategies for Individualizing Secondary Instruction

Professional Certificates in Elementary Education

The applicant should hold or be eligible for a Provisional Certificate before admission into a professional program and have three years of teaching experience before being recommended for the Professional Certificate.

Requirements for the Professional Certificate follow an outline prescribed by the Texas Education Agency; consequently, the format for the certificate and the format for the degree are not identical. By selecting a program and with careful planning, a student may fulfill concurrently requirements for the Master's degree and requirements for a Professional Certificate in Elementary Education or the Reading Specialist Certificate. Specific information concerning these certificates may be obtained from the Director of Certification in the College of Education or the Department of Professional Development and Graduate Studies

Other Certificates

It is possible for students to complete part of all of the requirements for a Provisional Teaching Certificate or an endorsement to such a certificate while working on a Master of Education degree in Elementary Education. Endorsements in areas such as mental retardation, physically handicapped/minimally brain injured, emotionally disturbed, learning disabilities, early childhood/exceptional children and kindergarten may be adapted to such an arrangement. Specific information concerning these certificates may be obtained from the Director of Certification in the College of Education.

Degree Plan in Secondary Education

To meet individual needs, considerable flexibility is allowed in developing the student's plan for a nonthesis or a thesis program; however, the usual pattern of course work is as follows:

1. Professional Development. Eighteen semester hours must be taken as follows:

Required: Six semester hours

Edu 531 Research in Education

Edu 5320 Adolescent Development

Electives: Twelve semester hours must be in one of the following areas:

Classroom Specialist Reading Specialist

Foundations of Education Supervision

A list of specific courses required or recommended in each of the concentrations is available through the Department of Professional Development and Graduate Studies.

2. Specialization Area. For the nonthesis route to the degree, 12-18 semester hours of graduate work must be completed in one of the approved disciplines. A minimum of 12 hours must be taken at the 500 level for the 18-hour specialization. If the student elects to write a thesis or chooses the route leading to the Professional Teaching Certificate which requires a six-hour resource area exclusive of professional education and the specialization, the specialization requirement is reduced to 12 semester hours with at least six at the 500 level.

A plan listing the specific courses required or recommended is available through the Department of Professional Development and Graduate Studies. Specialization areas are available in the following disciplines:

Biology Physical Education

Chemistry History

Earth Science Mathematics

Physics English

Speech Government

Degree in Secondary Education With Professional Certification in Reading

With a valid junior high school or high school teaching certificate and three years of classroom teaching experience, a student may fulfill requirements for a Professional Reading Specialist Certificate, all levels, by completing six semester hours beyond the usual requirements for the degree. Specific information may be obtained from the Department of Professional Development and Graduate Studies.

Program Leading to Professional Teaching Certificate—Secondary

The Texas Education Agency issues a Professional Teaching Certificate to the candidate recommended by the college when he/she has completed an approved 30 semester hour program of credit beyond the bachelor's degree. This program must include work in professional development, in a teaching specialization area and in a resource area. Requirements also indicate that the candidate must hold a Provisional Teaching Certificate and have three years of teaching experience. Specific requirements for the certificate may be obtained in the Department of Professional Development and Graduate Studies.

Other Certificates

It is possible for graduate students to complete requirements for a Provisional Teaching Certificate while completing a Master of Education degree in Secondary Education. Specific information concerning these certificates may be obtained from the head of the Department of Professional Development and Graduate Studies.

Degree Plan in Guidance and Counseling

To meet individual needs, some flexibility is allowed in planning the student's program; however, because of requirements for certification the usual pattern of course work is as follows:

1. **The Guidance Program:** Three semester hours.
Edu 5322 Organization and Administration of Guidance Program
2. **The Pupil Served:** Six semester hours.
Three semester hours:
Edu 534 Advanced Studies in Human Development
Edu 535 The Learning Process
Three semester hours:
Soc 432G Sociology of Education (Required)
Edu 5367 Psychosocial Foundation of Educating the Culturally Different
3. **Specialization Area:** Twenty-one semester hours.
Edu 531 Research
Edu 5323 Occupational and Vocational Guidance
Edu 5324 Group Counseling
Edu 5328 Practicum in Guidance and Counseling
Edu 5333 Individual Counseling Theories and Techniques
Edu 5334 Interpretation and Analysis of Tests and Measurements
Edu 5335 Individual Testing
Electives: (six semester hours)
4. **Graduate courses in Special Education or Psychology may be used with approval of the advisor**
SpEd 5361 Survey of Learning Potentials of Exceptional Children
SpEd 5362 Psychoeducational Evaluation of Exceptional Children
SpEd 5364 Behavior Modification

Professional Counselor's Certificate

A student who completes requirements for a Master of Education degree in Guidance and Counseling will have fulfilled all curriculum requirements for a Professional School Counselor's Certificate. A student who desires the certificate, without fulfilling all degree requirements should check with a faculty member or Guidance and Counseling for specific information. Usually a student who is otherwise eligible can meet these requirements by completing 30 semester hours. The Texas Education Agency issues a Professional Counselor's Certificate based upon completion of an approved program in guidance and counseling and three years of teaching experience in an accredited school system.

Degree Plan in Supervision

Requirements for a Master of Education in Supervision may be met by completing a 36 semester hour non-thesis program or by completing a 30 semester hour plan that includes a thesis. The student is allowed some flexibility in planning his program; however, the usual pattern of course work is as follows:

1. **Professional Development.** Six semester hours.
Edu 531 Research (Required)
Edu 5334 Interpretation and Analysis of Tests
SpEd 5316 Administration and Supervision of Special Education
2. **Specialization Area.** More semester hours.
Edu 5336 Leadership and Evaluation of Instruction
Edu 5337 Practicum and Seminar: Supervision and Curriculum Development
Edu 5338 Instructional Supervision
3. **Resource Area.** Twenty one semester hours; if thesis is written, fifteen semester hours.
Learning Process: Three semester hours.
Edu 534 Advanced Study of Human Development
Edu 535 Learning Process
SpEd 5364 Behavior Modification
4. **Electives:** Eighteen semester hours, twelve semester hours with thesis in the area of Reading, Early Childhood, Special Education, and Curriculum and Instruction.

If the student chooses to write a thesis, the number of electives is reduced to twelve hours in course work plus six hours in thesis. With approval, other graduate level courses applicable to professional certification sequences may be selected.

Professional Supervisor's Certificate

Curriculum requirements for a Professional Certificate in supervision may be met by completing a Master of Education degree in Supervision. A student who desires the certificate without fulfilling all degree requirements should consult with a faculty advisor in the Department of Professional Development and Graduate Studies.

Degree Plan in School Administration

Requirements for a Master of Education degree in School Administration may be met by completing a 36 semester hour nonthesis program. The program is designed to provide the first 36 of the 45 semester hours required for the Mid-Management Administrators' Certificate. A plan listing the specific courses for the degree is available in the office of Professional Development and Graduate Studies.

To meet individual needs, some flexibility is allowed in planning the student's program; however, because of requirements for certification the usual pattern of course work is as follows:

1. **Common Core for Administration: (24 semester hours)**
 - A. **General Administrative Competencies: 18 semester hours—all required**
 - Edu 531 Research in Education
 - Edu 535 The Learning Process
 - Edu 537 The Public School Curriculum, K-12
 - Edu 5331 Theory and Practice in School Administration
 - Edu 5336 Leadership and Evaluation of Instruction
 - Edu 5344 School Law
 - B. **Related Areas of Study: (6 semester hours)**
 - Soc 432G Sociology of Education (required)
 - CS 5301 Computer Systems for Education Applications (required)
2. **Specialized Preparation for School Administrators: (12 semester hours)**
 - Edu 5317 Organization and Administration of Special Programs (required)
 - Edu 5318 School Management and School Services (required)
 - Edu 5339 The Public School Principal (required)
3. **Three hours of electives from:**
 - Edu 539 Foundations of Reading
 - Edu 5334 Tests and Measurements
 - Edu 5343 Administration of the School Plant
 - Edu 5326 School-Community Relations
 - Edu 5342 School Finance and Business Management
 - Edu 5345 Personnel Management
 - Edu 5347 Seminar in School Administration

Professional Certification for Mid-Management School Administrator and for School Superintendent

The standards presented in this catalog for certification as Mid-Management Administrator and the School Superintendent are based on the 1972 Revised Standards and are applicable to all Lamar students entering programs after September 1, 1973. Two certificates are available under these new standards.

1. The Mid-Management Administrator's Certificate requires the completion of the approved 45 semester hour plan of graduate credit.
2. The Professional School Superintendent's Certificate requires the completion of the Mid-Management Administrator's Certificate and an additional 15 semester hour approved plan of graduate credit.

To be eligible for recommendation for the Mid-Management Administrator's Certificate, the candidate completing the 45 hour approved plan must hold a Provisional Teaching Certificate, must hold a Master's degree, must have a minimum of two years of creditable classroom teaching experience, and must have completed an approved administrative internship experience.

To be eligible for recommendation for the Professional School Superintendent's Certificate, the candidate must have met all of the requirements for the Mid-Management Administrator's Certificate, plus the completion of the 15 semester hour plan of specialized graduate work for school superintendents.

Professional Certificate course requirements are as follows;

1. **General Administrative Competencies:** 18 semester hours—all required.
 Edu 531 Research in Education
 Edu 535 The Learning Process
 Edu 537 The Public School Curriculum, K-12
 Edu 5331 Theory and Practice in School Administration
 Edu 5336 Leadership and Evaluation of Instruction
 Edu 5344 School Law
2. **Related Areas of Study:** Nine semester hours, Six required.
 Soc 432G Sociology of Education (required)
 CS 5301 Computer Systems for Educational Applications (required)
 Three semester hours selected from the following:
 Eco 534 Collective Bargaining
 Eco 4301G Institute in Economics
 Gov 535 Seminar in Theory and Practice in Public Administration
 Gov 5351 Seminar in Personnel Administration
3. **Specialized Preparation for School Administrators:** 18 semester hours
 Edu 5317 Organization and Administration of Special Programs (required)
 Edu 5318 School Management and School Service (required)
 Edu 5339 The Public School Principal (required)
 Edu 5348 Practicum in Educational Administration (required)
 Six semester hours to be selected from:
 Edu 539 Foundations of Reading
 Edu 5334 Tests and Measurements
 Edu 5326 School-Community Relations
 Edu 5342 Public School Finance
 Edu 5343 Administration of the School Plant
 Edu 5345 Personnel Administration
 Edu 5347 Seminar in School Administration
4. **Specialized Preparation for the School Superintendent.** 15 semester hours required.
 Edu 5326 School-Community Relations
 Edu 5341 The School Superintendent (required)
 Edu 5342 Public School Finance (required if not previously completed)
 Edu 5343 Administration of the School Plant
 Edu 5345 Personnel Management
 Edu 5349 Internship for the School Superintendent (required):
 Three hours to be repeated once during consecutive long terms).

Degree Plan 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 Professional Certificate as an Educational Diagnostician or in Mental Retardation or in Supervision. Provisional Certification in Special Education-Generic is available, if desired, 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 nonthesis program. A student not seeking a certificate within the degree may complete a minimum of 30 semester hours in addition to a thesis.

To fulfill requirements concurrently for a Master's degree and Professional Certification in Supervision, the student also must have or complete a special education categorical area endorsement. The student should secure information concerning requirements for certification from the Department of Professional Development and Graduate Studies. General information concerning Professional Certificates is presented in another portion of the College of Education section of the bulletin.

1. **Professional Development Area:** Nine semester hours are required.
 - Edu 531 Research (required)
 - Edu 533 Contemporary Philosophies of Education
 - Edu 534 Advanced Study in Human Development (required for Educational Diagnostician)
 - Edu 535 The Learning Process (required for Educational Diagnostician)
2. **Resource Area:** Twelve semester hours must be selected from the following courses (six semester hours if the student elects to write a thesis)
 - SpEd 4308G Appraisal Processes in Programming for the Exceptional Individual
 - SpEd 4309G Instruction of the Exceptional Learner (required for Special Education- Generic)
 - SpEd 4310G Practicum in Instructing the Exceptional Individual (with permission)
 - SpEd 5313 Learning Potentials in the Mentally Retarded
 - SpEd 5314 Instructional Processes with the Mentally Retarded
 - SpEd 5315 Problems and Issues in Special Education
 - SpEd 5316 Administration and Supervision of Special Education Programs
 - Edu 5334 Interpretation and Analysis of Tests and Measurements (required for Supervision)
 - Edu 5335 Individual Testing (required for Educational Diagnostician)
 - Edu 5351 Advanced Studies in Early Childhood Curriculum
 - SpEd 5361 Survey of Learning Potentials of Exceptional Children (required for Special Education- Generic)
3. **Specialization Area:** Fifteen semester hours must be selected from the following courses or in a concentrated area when attaining a specific certification:
 - A. **Educational Diagnostician**
 - SpEd 5362 Psychoeducational Evaluation of Exceptional Children
 - SpEd 5363 Practicum in Psychoeducational Procedures
 - SpEd 5364 Behavior Modification and Contingency Management of Disabled Learners
 - SpEd 5365 Instructional Processes with Exceptional Children
 - SpEd 5366 Modification of Curriculum and Instruction for the Atypical Learner
 - B. **Mental Retardation**
 - SpEd 431G Psychology of Exceptional Children
 - SpEd 5313 Learning Potentials in the Mentally Retarded
 - SpEd 5314 Instructional Processes with the Mentally Retarded
 - SpEd 5315 Problems and Issues in Special Education
 - SpEd 5364 Behavior Modification and Contingency Management of Disabled Learners
 - C. **Supervision**
 - Edu 5336 Leadership and Evaluation of Instruction
 - Edu 5337 Practicum and Seminar
 - Edu 5338 Instructional Supervision
 - SpEd 5316 Administration and Supervision of Special Education Programs
 - SpEd 5361 Survey of Learning Potentials of Exceptional Children
 - D. **Special Education— Generic**
 - SpEd 4307G Practicum in Instructional Alternatives in Reading and Language Arts (with permission)
 - SpEd 4308G Appraisal Processes in Programming for the Exceptional Individual
 - SpEd 4310G Practicum in Instructing the Exceptional Individual (with permission)

SpEd 5364 Behavior Modification and Contingency Management of Disabled Learners

SpEd 5365 Instructional Processes with Exceptional Children

Professional Certificates in Special Education

Educational Diagnostician

Mental Retardation

Special Education Supervisor

With careful planning, a student may complete requirements for two of the professional certificates indicated above within the master's degree program. Specific information concerning these certificates may be obtained from the Professional Development and Graduate Studies Department.

Provisional Certificates in Special Education

Special Education

Generic

Mental Retardation

Physically Handicapped

Learning Disabilities

Emotionally Disturbed

Early Childhood/Exceptional Children

Students may obtain provisional certification in the above listed areas. A combination of graduate and undergraduate courses leading to one or more certificates is possible. Specific information concerning these certificates may be obtained from the Department of Professional Development and Graduate Studies.

General Information Concerning Professional Certificates

The Professional Certificate is valid for life unless cancelled by lawful authority, 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.

Requirements

1. Have completed the requirements for a Provisional Certificate.
2. Have at least three years of teaching experience.
3. Have completed an approved teacher education program.
4. Be of good moral character.
5. Be a citizen, or in the process of becoming a naturalized citizen of the United States.
6. Believe in and uphold the Constitution of the United States and the State of Texas.
7. Have completed, in a Texas institution of higher learning, a course or courses in which the Constitutions of the United States and the State of Texas have been given special emphasis.
8. Have completed at least six semester hours of American history or three semester hours in American history plus three semester hours in Texas history.
9. Pay an application fee of \$10.

Graduate Faculty—College of Education

- Professor Alice C. Bell
Health, Physical Education and Dance:
Health Education
- Professor David L. Bost
Professional Development and Graduate
Studies: Counseling, Research
- Assistant Professor Wayne Brazell
Curriculum and Instruction: Reading, The
Gifted Child
- Professor Kenneth R. Briggs
Professional Development and Graduate
Studies: Educational Psychology
- Assistant Professor Odette Bruneau
Curriculum and Instruction: Special
Education
- Professor Charles M. Burke
Curriculum and Instruction: School
Curriculum, Math Education
- Assistant Professor Micheal A. Cass
Curriculum and Instruction:
Special Education
- Professor Betty Fay Coody
Professional Development and Graduate
Studies: Elementary Curriculum, Reading
- Assistant Professor Mark J. Cooper
Curriculum and Instruction: Early
Childhood, Kindergarten
- Professor Vernon R. Crowder
Health, Physical Education and Dance:
Exercise Physiology
- Professor Jane S. Davidson
Home Economics: Education
- Professor Vernon M. Griffin
Professional Development and Graduate
Studies: Supervision
- Professor W. Richard Hargrove
Curriculum and Instruction: Educational
Psychology, School Curriculum
- Associate Professor Sandra Lee Haven
Professional Development and Graduate
Studies: Microcomputer; Tests and
Measurements
- Professor Belle Mead Holm
Health, Physical Education and
Dance: Administration, Health Education
- Professor V. Raye Holt
Health, Physical Education and Dance:
Physical Education, Health Education
- Associate Professor Sidney W. Jolly, Jr.
Health, Physical Education and Dance:
Physical Education
- Assistant Professor Andrea Karlin
Curriculum and Instruction, Reading
- Assistant Professor James E. Lane
Curriculum and Instruction: Special
Education
- Assistant Professor Dennis Lobstein
Health, Physical Education and Dance:
Exercise science, Fitness Analysis and
Research
- Associate Professor Mildred A. Lowrey
Health, Physical Education and Dance:
Physical Education, Motor Learning,
Sports Psychology
- Assistant Professor LeBland McAdams
Home Economics: Clothing and Fashion
Merchandising
- Professor Dennis P. McCabe
Professional development and Graduate
Studies: Supervision, Administration
- Professor Fern Rennebohm
Home Economics: Consumer Studies,
Retailing, Housing
and Home Furnishing
- Assistant Professor Dana R. Scott
Home Economics: Child and Family
Development
- Professor E. Lee Self
Curriculum and Instruction. Public
Education
- Professor Phillip B. Snyder
Curriculum and Instruction: Science
Education
- Professor Monty Sontag
Curriculum and Instruction: Special
Education
- Professor William H. Stanley
Professional Development and
Graduate Studies: Educational
Administration, Supervision
- Assistant Professor Catherine Stivers
Health, Physical Education and Dance:
Health Education
- Associate Professor Jerry R. Tucker
Professional Development and
Graduate Studies: Educational
Administration, Supervision
- Professor William White
Professional Development and
Graduate Studies: Educational
Psychology, Research
- Associate Professor Curtis F. Wills
Professional Development and
Graduate Studies: Counseling
- Professor Leonard A. Yates
Health, Physical Education and Dance:
Physical Education, Curriculum,
Administration

Education Courses

- 530 **Structure and Organization of Public Education** 3:3:0
Analysis of the operation and function of public education at the local, state and national levels.
- 531 **Research** 3:3:0
Introduction to skills and techniques necessary for descriptive research in education problems. Emphasis on planning, designing, and methodology. One third time in laboratory exercises and writing a research proposal and report.
- 532 **Current Issues in Education** 3:3:0
Current controversies and trends in public education.
- 533 **Contemporary Philosophies of Education** 3:3:0
Influence of recent philosophies on education. Schools of educational philosophy and implications for curriculum development and teaching methods.
- 534 **Advanced Study in Human Development** 3:3:0
A study of development and nature of the human personality. Emphasis on recent psychological and biological experiments.
- 535 **The Learning Process** 3:3:0
History and systems of learning which have application to the classroom. Emphasis on social learning and cognitive theories and strategies. Twenty percent of the class in learning laboratory activities.
- 536 **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.
- 537 **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.
- 538 **Modern Mathematics in the Elementary School** 3:3:0
Problems, research and innovative methods in elementary mathematics. This course is designed for elementary teachers who wish to pursue individual problems, research and recent methods and trends of teaching elementary mathematics.
- 539 **Foundations of Reading** 3:3:0
Methods for extending and refining fundamental reading habits and attitudes, and for increasing reading efficiency. Attention will be given to all facets of the foundations of a reading program.
- 510, 5201, 5401, 5601 **Institute in Education** 1-6:1-6:0
Designed to advance the professional competence of participants. For each institute, a description of the particular area of study will be indicated. May be repeated for credit when nature of institute differs sufficiently from one previously taken. A maximum of 6 hours in institutes may be applied toward a Master's degree.
- 5301 **Current Literature for Children and Adolescents** 3:3:0
Survey of recent literature for children and adolescents. Emphasis is given to nonfiction in such areas as earth science and social science. Extensive reading of actual literature.
- 5302 **Practicum: Diagnosis and Remediation of Reading Difficulties** 3:3:0
Work with pupils in diagnosing and correcting reading disabilities. Students will determine the causes of reading disabilities, employ observation and interview procedures, use standard and informal tests and study materials and methods of instruction.
- 5303 **Individualized Instruction in the Elementary School** 3:3:0
Basic concepts of individualized instruction will be covered in detail. Various innovative methods of individualized instruction will be investigated. Particular attention will be given to types of school organization such as the "open" school.
- 5304 **Advanced Child Development** 3:3:0
A consideration of the contribution of scientific research to an understanding of child development and behavior. Emphasis on biological, social, cultural and psychological factors determining individual differences in the child.
- 5305 **Problems in Elementary School Instruction** 3:3:0
Consideration of the instructional problems encountered by teachers in the elementary schools.
Prerequisite: One year of teaching experience.
- 5306 **Institute in Education** 3:3:0
Designed to advance the professional competence of participants. A description of the institute will be indicated. May be repeated for credit when nature of institute differs significantly from one previously taken. A maximum of 6 hours in institutes may be applied toward a Master's degree.

- 5307 **History of Education** 3:3:0
A study of the evolution of educational theory traced from the time of primitive man to the present age depicting the development of concepts and contributions leading to modern educational thought.
- 5308 **The Gifted Child** 3:3:0
Study of the process of identifying and effectively teaching academically gifted students in a variety of settings.
- 5310 **Language Arts in the Elementary School** 3:3:0
A study of developments and trends in the teaching of language arts with primary consideration given to individual teaching problems, individual research and recent innovative methods.
- 5111, 5211, 5311 **Individual Study in Education** 1-3: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.
- 5317 **Organization and Administration of Special Programs** 3:3:0
Study of principles, organization and administrative practices in special, vocational, adult, and community education programs. Study of programs for guidance and standardized testing, library and media, UIL and student activities, and state and regional accreditation.
- 5318 **Organization and Administration of School Services** 3:3:0
Study of principles, organization and administrative practices for school service of attendance, food, health, maintenance, personnel, textbooks, and transportation.
- 5319 **Problems in Secondary School Instruction** 3:3:0
Consideration of the instructional problems encountered by experienced teachers in the secondary schools.
Prerequisite: One year of teaching experience.
- 5320 **Adolescent Development** 3:3:0
Physical, mental, social and emotional characteristics of the adolescent; his/her interests and problems; his/her family and community relationships.
- 5321 **Strategies for Individualizing Secondary Instruction** 3:3:0
An analysis of the strategies for individualizing instruction, including the techniques of diagnosis and prescription for learning problems. Studies of the open classroom, team teaching, independent study, learning modules, nongraded programs and other organizations for instruction are included.
- 5322 **Organization and Administration of the Guidance Program** 3:3:0
Concepts and delivery of vocational guidance and career education.
- 5323 **Occupational and Vocational Guidance** 3:3:0
Concepts and delivery of vocational guidance and career education.
- 5324 **Group Counseling** 3:3:0
Processes of individual study. Counseling procedures and techniques for individuals and groups.
- 5325 **Pupil Personnel Management** 3:3:0
Survey of student services in the public schools emphasizing principles, philosophy and operating procedures.
- 5326 **School-Community Relations** 3:3:0
Emphasizes the relationship of educational and social patterns of living which exists in every community; recognizes the burden of leadership which rests with the public school as it occupies the central position of influence in the community.
- 5327 **College Teaching** 3:3:0
Designed for graduate students with little or no pedagogical training or experience. Application of learning principles and pedagogical procedures in college classes.
- 5328 **Practicum in Guidance and Counseling** 3:8:0
Supervised observation and practice of guidance and counseling in a school setting.
Prerequisite: Edu 5335 and approval of department head. Class: the number of hours equivalent to 8 hours per week for 16 weeks.
- 5329 **Corrective Reading** 3:3:0
Causes of reading disability, methods of diagnosis and remedial instruction.
- 5331 **Theory and Practice in School Administration** 3:3:0
Introduction to theories of administration, organizational structures and current practices in educational administration. Emphasis is given to types of organizational designs, personnel titles and roles, line staff relationships and general theories of successful administrative practice.
- 5332 **Guidance and Counseling in the Elementary School** 3:3:0
A course designed to provide an understanding of guidance principles and techniques applicable to the elementary school.
- 5333 **Individual Counseling Theories and Techniques** 3:3:0
Opportunities are provided for the student to enrich his/her background and experience in interviewing and in dealing with human relations problems in the counseling situation.

- 5334 **Tests and Measurement** 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.
- 5335 **Individual Testing** 3:3:0
Theoretical and practical study emphasizing the administration, scoring and basic interpretation and practice in the use of individual psychological tests. Students will be trained to administer the Wechsler tests, the Stanford Binet or other subsequently developed individual intelligence scales.
Prerequisite: Edu 4337G or Edu 5334.
- 5336 **Leadership and Evaluation of Instruction** 3:3:0
An investigation of processes and procedures used to evaluate instructional and administrative personnel in the public schools. Special attention is given to the role of the principal and the supervisor in this process. Included in the content are programs of clinical supervision and staff development.
- 5337 **Practicum and Seminar** 3:3:0
Supervision and curriculum development. Investigation of the role of the supervisor with emphasis on curriculum development. Investigations will center around problems in supervision, curriculum theory and educational experimentation.
- 5338 **Instructional Supervision** 3:3:0
A study of human resources supervision and organizational leadership for more effective schools. Special investigation into the elements of school climate, leadership behavior, motivation theory, and group supervisory effectiveness.
- 5339 **The Public School Principal** 3:3:0
Study of the role and competencies for the administrator of the elementary, middle and secondary schools. Specific studies of job analysis and responsibilities in various organizations of the K-12 program are included.
- 5340 **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.
- 5341 **The School Superintendent** 3:3:0
Emphasis on the legal and delegated authority, responsibilities and operative techniques of the superintendency.
- 5342 **Public School Finance** 3:3:0
Analysis of principles of school finance to include problems of budgeting, accounting and administration of funds.
- 5343 **Administration of School Plant** 3:3:0
Operation, maintenance and utilization of physical plant to include administration of records, standards and control of plant and development of school building programs.
- 5344 **School Law** 3:3:0
Interpretation and operation of school law including a study of the Texas Education Code and the Handbook for Public School Law.
- 5345 **Personnel Management** 3:3:0
Fundamentals of human relations and organizational behavior in developing programs of recruitment selection, assignment, evaluation, promotion and termination of personnel.
- 5346 **Public Relations in School Administration** 3:3:0
Development of principles governing school-community relationships to promote mutual understanding and support of school's purpose, functions and needs.
- 5347 **Seminar in School Administration** 3:3:0
Study of basic 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.
- 5348 **Practicum in Educational Administration** 3:A:0
Supervised experience in administration and offered by arrangement between the University and the public school.
- 5349 **Internship for the School Superintendent** 3:A:0
Designed to give the prospective superintendent on-the-job training under the guidance of a successful, experienced, practicing administrator with the supportive supervision of members of the University faculty. May be repeated once for credit; must be done in consecutive long terms.
- 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.

- 5367 **Psycho-Social Foundations of Educating the Culturally Different** 3:3:0
Studies delineate personal psychological characteristics and the affective domain of the culturally different. Identifies educational strategies applicable to the teaching process as well as other supportive pupil services.
- 5368 **Practicum: Role and Responsibilities of the Visiting Teacher** 3:0:0
Studies involve supervised one-to-one interactions with pupils, parents, community agencies and other personnel to actualize resources that enhance educational opportunities for children.
- 5378 **Instructional Supervision of Student Teachers** 3:3:0
Designed to facilitate instructional personnel who, directly or indirectly, work with/supervise student teachers to better understand their roles of supervision as they relate to student teaching. Emphasis is given to the cooperative endeavor and special relationships as they exist between state regulatory bodies, the supervising teacher and the University supervisor.
Note: This course has been recognized by the Lamar Teacher Center as meeting the in-service requirement for supervising teachers as specified by state statute.
- 5381 **Advanced Seminar in Counselor Relations** 3:0:0
An intensive exploration of the dynamics of interpersonal relationships. A critical analysis of various approaches to counseling will be established. Development and demonstration of personal counseling skills will be of major concern.
Prerequisite: Edu 5333.
- 5390-9 **Selected Instructional Topics** 3:3:0
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 semester schedule. Contact hours must be the same as instructional courses require.
- 669A-669B **Thesis** 6:A:0
Prerequisite: Approval of graduate advisor.

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course Descriptions may be found in the Bulletin of Lamar University.

- 431G Diagnostic-Prescriptive Techniques in the Teaching of Reading
4301G Institute or Workshop in Education
4304G History and Philosophy of the Kindergarten
4305G Seminar in Early Childhood Educational Research
4337G Tests and Measurements
439G Reading Practicum

Special Education Courses (SpEd)

- 5101, 5201, 5301, 5601 **Institute or Workshop in Special Education** 1-6:1-6:0
Designed to advance the professional competence of participants. For each institute or workshop a description of the particular area of study will be indicated. May be repeated for credit when institute or workshop differs sufficiently from one previously taken. A maximum of 6 hours of credit in Institutes may be applied toward a Master's degree.
- 5121, 5221, 5321 **Individual Study in Special Education** 1-3:A:0
Investigation into special areas in special education under the direction of a faculty member. This course may be repeated for credit when topics of investigation differ.
Prerequisite: Consent of department head.
- 5313 **Learning Potentials in the Mentally Retarded** 3:3:0
Determining the degree of modifiability of pupil behaviors and identifying functioning levels; individual projects.
- 5314 **Instruction Processes with the Mentally Retarded** 3:3:0
Translating the behaviors of the mentally retarded into developmental categories and applied instructional modification processes.
- 5315 **Problems and Issues in Special Education** 3:3:0
Appraisal of current problems, trends and practices in the education and care of exceptional children.
- 5316 **Administration and Supervision of Special Education Programs** 3:3:0
Analysis of the functions of special education in the administrative structure of the school; the principles and practices in administration and supervision in special education.
- 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.	
	<i>Prerequisite: SpEd 5362.</i>	
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.	
5390	Special Education and the Pre-school Age Child	3:3:0
	Study in the problems, trends and practices in the education and care of the pre-school child in special education.	
5391	Special Education and the Elementary School Age Child	3:3:0
	Study in the problems, trends and practices in the education and care of the elementary school age child in special education.	
5392	Special Education and the Secondary School Age Child	3:3:0
	Study in the problems, trends and practices in the education and care of the secondary school age child in special education.	
5393	Mainstreaming and the Exceptional Child	3:3:0
	Review of current problems, trends and practices in the education and care of exceptional children through mainstreaming.	
669A-669B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

431G	Psychology of Exceptional Children
436G	Education of Gifted Children
438G	Instructional Processes with the Severely and Profoundly Handicapped
439G	Methods and Materials in Learning Disabilities
4101G, 4201G, 4301G, 4601G	Institute or Workshop in Special Education
4307G	Practicum in Instructional Alternatives in Reading and Language Arts for the Exceptional Individual (with permission)
4308G	Appraisal Processes in Programming for the Exceptional Individual
4309G	Instruction of the Exceptional Learner
4310G	Practicum in Instructing the Exceptional Individual (with permission)
4381G	Instructional Processes With the Severely/Profoundly Handicapped

Graduate Resource Courses

These courses are not offered by the College of Education but are required or suggested for certain degree plans.

CS 5301	Computer Systems for Educational Applications	3:3:0
	Functional units of computers including both hardware and firmware; software; analysis, design and evaluation of computing configurations for educational applications; cost estimation techniques for both academic and administrative applications.	
Soc 430G	Seminar in Sociology	3:3:0
	Basic concepts and principles of sociology as applied to the study of selected topics. Designed for education majors or other non-sociology majors.	
Soc 432G	Sociology of Education	3:3:0
	A study of the multi-cultural influences on the school system and the democratic society. Included will be an analysis of educational problems in the multi-cultural society of Texas.	
Eng 4312G	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.	

Division of Health, Physical Education and Dance

The Division of Health, Physical Education and Dance offers a program of study leading to the Master of Science degree in Health and Physical Education. It is designed to prepare professional personnel for employment in school and community settings and to prepare students for further graduate study at the doctoral level. Candidates seeking admission to the program must meet the general catalog requirements for admission to the College of Graduate Studies and must meet the necessary undergraduate prerequisites as prescribed for a particular area of specialization. The areas of specialization available include (1) teaching and research, (2) exercise science, and (3) fitness program administration. A teaching and research specialization is offered for those graduate students who are interested in advanced preparation for teaching in school and university settings, research opportunities, doctoral level work and administrative responsibilities. The exercise science area of specialization provides a concentration on theory and research. Fitness program administration involves a concentration in exercise technology and practical applications for those students seeking employment in public, private, or corporate fitness centers.

Degree Requirements

The candidates for the Master of Science degree in Health and Physical Education must meet all of the College of Graduate Studies general degree requirements as listed in the Graduate catalog. To be sure that requirements are met, students are encouraged to contact the graduate coordinator. Additional specific degree requirements are as follows:

1. Nine semester hours to include HPE 534 (Scientific Basis of Exercise), HPE 536 (Research Methods), and HPE 538 (Motor Learning).
2. The thesis is optional for specialization areas of teaching/research and fitness program administration.
3. The thesis is **required** for the exercise science area of specialization.
4. Each specialization area requires additional core requirements contingent upon the option selected.
5. Exercise science specialization requires undergraduate prerequisites in biology and chemistry.

Professor Alice C. Bell

Health education

Professor Vernon R. Crowder

Exercise physiology

Professor Belle Mead Holm

Administration, Health Education

Professor V. Raye Holt

Physical education, health education

Associate Professor Sidney W. Jolly, Jr.

Physical education

Assistant Professor Dennis Lobstein

Exercise science, Fitness analysis and research

Associate Professor Mildred A. Lowrey

Physical education, motor learning, sports psychology

Assistant Professor Catherine Stivers

Health Education

Professor Leonard A. Yates

Physical education, curriculum, administration.

Health and Physical Education Courses

- | | | |
|-----|---|-------|
| 530 | Problems in Health and Physical Education
Biological, physiological, social, psychological and other purposes and outcomes; selection and distribution of activities; teaching methods; facilities; teacher preparation; literature; research problems.
<i>Prerequisite: Permission must be obtained from an active teaching member of the graduate faculty.</i> | 3:A:0 |
| 531 | Cultural Foundations of Physical Education
A study of history and cultural foundations of sport and physical education activities, their origin and influence upon modern man. | 3:3:0 |
| 532 | Seminar in Health and Physical Education
Designed to develop abilities in locating and evaluating literature and research in physical education and in allied fields. Course may be repeated for a maximum of six semester hours as the topic varies. | 3:3:0 |
| 533 | Organization and Administration of the School Health Program
Administrative relationships and procedures in conducting school health programs. | 3:3:0 |

- 534 **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.
- 535 **Trends and Issues in Health and Physical Education** 3:3:0
Designed to assist the student to become knowledgeable on current trends and issues in the areas of health and physical education. Study will include historical, analytical and projective approaches. Course may be repeated for a maximum of six semester hours as the topic varies.
- 536 **Research Methods in Health and Physical Education** 3:3:0
Familiarity with types of research in Health and Physical Education with emphasis on tools and techniques of research and research design.
- 537 **Basis of Sports Medicine** 3:3:0
Human environmental factors and their interrelationship in sports injury and their control; accident prevention and injury control in sports activities; philosophy of sports safety; contributions of sports medicine to safety and current trends and issues in sports medicine.
- 538 **Motor Learning** 3:3:0
A formalized and scientific study of learning, performance and related factors as applied to gross motor skills.
- 539 **Psychosocial Aspects of Sport** 3:3:0
Psychological and sociological concepts related to physical activity. Major concepts and experimental evidence pertaining to learning and behavior are discussed.
- 510I, 520I, 530I **Workshop in Health and Physical Education** 1-6:1-6:0
This course is designed to advance the professional competence of graduate students in health and physical education. Topics will vary. A description of the particular area of study will be indicated. Course may be repeated for a maximum of six semester hours if topic varies. A maximum of six semester hours of workshop may be applied to a degree program.
- 5311 **Curriculum Development in Physical Education** 3:3:0
Emphasis given to models of curriculum development and to techniques for curriculum improvement. Analysis of objectives, organization and content of physical education K-12.
- 5312 **Independent Study** 3:A:0
Intensive study in an area of special interest in health or physical education. Course may be repeated for a maximum of six semester hours as the topic varies.
Prerequisite: Demonstrated competence for independent work, research methods, and consent of active teaching member of the graduate faculty.
- 5316 **Exercise Psychobiology** 3:2:1
Comprehensive review of current literature dealing with exercise stress, emotionality, immune system function, and neuroendocrine function. Psychoneuroendocrine aspects of wholistic health concepts are considered, including those of Asian fitness systems and Oriental philosophy.
Prerequisite: Exercise physiology.
- 5318 **Fitness Program Management and Exercise Technology** 3:2:1
Review of current literature dealing with physical fitness. Students function as group leaders and learn applied exercise technology, including stress and diet management, fitness testing, and exercise prescription. Preparation for adult fitness program administration.
Prerequisite: Exercise physiology.
- 669A-669B **Thesis** 6:A:0
Prerequisite: Approval of graduate advisor.

Department of Home Economics

The Master of Science degree in Home Economics allows students to choose courses from the areas of foods and nutrition, textiles and clothing, child development, family relationships, interior design, home management and home economics education. Workshops and travel/study tours along with regular daytime and evening classes make completion of a Home Economics Masters degree attainable and rewarding.

Degree Requirements

The Master of Science degree in Home Economics requires the completion of 30 semester hours of graduate work: 18 in home economics, 6 in thesis and 6 in an approved supporting field. With the approval of the student's graduate committee 6 semester hours of course work may be substituted for the thesis. If the non-thesis option is selected, 6 hours must be taken in an approved supporting field.

The student's graduate program must include Home Economics 5314, Research Techniques and Home Economics 530, Seminar in Home Economics.

Graduate Faculty in Home Economics

Professor Jane S. Davidson
Home economics education
Nutrition and food science

Associate Professor LeBland McAdams
Clothing and fashion merchandising

Professor Fern Rennebohm
Consumer Studies, retailing, housing and
home furnishings
Assistant Professor Dana R. Scott
Child and family development

Home Economic Courses

530	Seminar in Home Economics An intensive study of selected problems and recent developments in Home Economics.	3:3:0
531	Recent Advances in Foods and Nutrition 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.	3:3:0
532	Clothing Design and Merchandising An application of couture costume design principles and techniques related to construction and merchandising.	3:2:3
533	Heritage of Dress A survey of costume history and customs which have affected garment styles. An analysis of historic costume and its contribution to civilization.	3:3:0
534	Problems in Clothing and Textiles Individual and group investigations and discussions of special problems in the various phases of clothing and textiles.	3:3:0
535	Cultural Aspects of Food The relationships of food acceptability and use to the cultural and social development of people over the world. Food preparation experiences as influenced by international food patterns.	3:2:3
537	Family Management Socio-economic changes, public policies and programs, and management practices related to family well-being.	3:3:0
538	Curriculum Development in Home Economics Philosophy and development of home economics education programs for secondary schools, colleges or universities with emphasis on current curriculum developments and trends.	3:3:0
539	Experimental Foods Investigation into principles and problems of food preparation. Development of professional attitudes and techniques through laboratory groups and individual projects.	3:2:2
5101, 5201, 5301, 5601	Workshop in Home Economics Workshops designed to strengthen professional competence (or expertise) needed for addressing societal issues related to Home Economics. May be repeated for credit when topic of interest varies. Credit: one to six hours.	
5311	Advanced Textiles Analysis and comparison of recent scientific textile trends with reference to fiber content, yarn, fabrication, color and finish.	3:3:0
5312	Resources in Home Economics Education Creative development, selection and evaluation of instructional materials including preparation, selection and use of visual materials.	3:3:0
5313	Current Topics in Home Economics Intensive study of a current problem of professional interest in home economics. 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. Credit: 3 hours	
5315	Independent Study in Home Economics 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. credit: 3 hours	
5314	Research Techniques Principles and application of standard techniques used in research.	3:3:0
669A-669B	Thesis <i>Prerequisite: Approval of graduate advisor.</i>	6:A:0

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

- 411G, 421G, 431G Special Topics
- 430G Quantity Food
- 432G Therapeutic Nutrition
- 433G Household Equipment
- 434G Fashion and Production
- 435G Consumer Housing
- 436G Home and Fashion Merchandising
- 437G Individual Problems in Home Economics
- 4305G Advanced Interior Design
- 4307G Internship in Home Economics
- 4317G Internship in Fashion Merchandising
- 4327G Family Life and Parenting Behavior



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 Computer Science (M.S.)
- Master of Science in Mathematics (M.S.)

Master of Engineering Management (M.E.M.)

The Master in Engineering Management is a non-thesis degree program with all courses offered after 4:00 p.m. Coursework 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 thirty-six credit hours are required at the graduate level. Included among these thirty-six credit hours are fifteen hours of core courses required of all M.E.M. students. Coursework in addition to the required core courses is tailored specifically to the needs of the student, but generally has approximately 1/3 of the courses in the general area of technical management, 1/3 in Business Administration, and 1/3 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. A B.S. in Engineering or Equivalent
2. Graduate Record Examination (GRE)
Scores (Verbal + Quantitative) = 1000 or more.
3. 2-5 Years of Engineering Experience with 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 from an approved list of courses. (See typical programs)

Step by Step Procedure

1. Obtain a Bachelor of Science Degree in Engineering.
2. Complete 2-5 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 409 838-8350
 - b. Take GRE Examination and have scores sent to: Graduate Admissions, Lamar University, P.O. Box 10009, Beaumont, Texas 77710.
 - c. Have all undergraduate transcripts sent to Graduate Admissions as in b.
 - 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 fifteen hours of coursework including all core courses and apply for admission to candidacy.

6. Complete remaining coursework specified in candidacy application
 - a. Apply for Graduation
 - b. Pass Comprehensive Examination
7. Graduate

Core Courses

1. EGR-5369 — Engineering Management
2. EGR-5362 — Decision Making Processes
3. ENG-5363 — Administrative Control Systems
4. EGR-5366 — Advanced Engineering Economics
5. ACC-530 — Financial Accounting

or

 Eco-530 — Foundations of Economics

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

EGR-5347 - Manufacturing Analysis
 EGR-5333 - Production Control
 EGR-5316 - Operations Research I
 EGR-5365 - Industrial Planning

TECHNICAL MANAGEMENT

*EGR-5369 - Engineering Management
 *EGR-5362 - Decision Making Processes
 *EGR-5321 - Quality Control Systems
 *EGR-5366 - Advanced Engineering Economics

Business Administration

*ACC-530 - Financial Accounting
 ACC-537 - Managerial Accounting
 ECO-534 - Collective Bargaining
 ECO-530 - Foundations of Economics

II. Construction Project Management (CE)

TECHNICAL DISCIPLINE

CE-432G - Planning, Scheduling and Estimating
 EGR-5301 - Elements of Construction Systems
 EGR-5318 - Stress Analysis
 EGR-5301 - Project Control Systems

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

III. Construction Project Management (CHE)

TECHNICAL DISCIPLINE

EGR-533 - Computer Methods
 EGR-5341 - Mass Transfer
 EGR-5344 - Process Modeling
 EGR-536 - Thermodynamics

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

IV. Instrumentation and Control (EE)

TECHNICAL DISCIPLINE

(Select 4)
 EGR-5364 - Digital Hardware Design
 EGR-6364 - Micro Processor Design
 EGR-535 - Control Theory
 EGR-6346 - Advanced Engineering Analysis
 EGR-538 - Digital Control

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

V. Power and Energy (EE)**TECHNICAL DISCIPLINE**

(Select 4)

- EGR-5354 - Nuclear Power Plants
- EGR-5351 - Power Systems I
- EGR-5352 - Power Systems II
- EGR-6311 - Computer Methods in Power Systems
- EGR-5364 - Digital Hardware

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

VI. Construction Project Management (IE)**TECHNICAL DISCIPLINE**

- EGR-5308 - Cost and Optimization Engineering (Pert/Cost)
- EGR-5303 - Regression Analysis
- EGR-5370 - Technical Communication
- EGR-5305 - Reliability

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

VII. Construction Project Management (ME)**TECHNICAL DISCIPLINE**

(Select 4)

- Egr-5308 - Cost and Optimization Engineering
- EGR-5318 - Stress Analysis
- EGR-5312 - Heat Transfer
- EGR-537 - Thermodynamics - Energy Conversion
- EGR-5313 - Fluid Mechanics

TECHNICAL MANAGEMENT

Same as Option I

BUSINESS ADMINISTRATION

Same as Option I

Master of Engineering Sciences (MES), Master of Engineering (ME), and Doctor of Engineering (DE)

The Master of Engineering Science, Master of Engineering and Doctor of Engineering programs are currently 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 Courses: (M.E.S., M.E. and D.E. Programs)

EGR	531	Materials Science
EGR	532	Instrumentation
EGR	535	Control Theory
EGR	537	Thermodynamics Energy Conversion
EGR	539	Computer Aided Design/Graphics
EGR	5312	Transport Mechanisms (Heat, Mass, or Momentum)
EGR	5316	Operations Research I
EGR	5318	Stress Analysis
EGR	5319	Design of Experiments
EGR	5366	Advanced Engineering Economy
MTH	5310	Numerical Analysis

The following mathematics courses are recommended as support courses for the graduate programs in engineering:

MTH	5303	Modeling Theory
MTH	5311	Complex Variables

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 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.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. A minimum of 9 semester hours (3 courses) from those courses above as core courses.
3. A minimum of 15 semester hours (5 courses) of electives. Additional core courses may satisfy part of this requirement.
4. Satisfactory completion and defense of thesis (EGR 669A and EGR 669B).

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.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. A minimum of 21 semester hours (7 courses) from those listed above as core courses.
3. A minimum of 15 semester hours* (5 courses) of electives. Additional core courses may satisfy part of this requirement.
4. Satisfactory completion of a final comprehensive examination.

*A graduate student holding an Engineer-in-Training (EIT) certificate 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 twelve semester hours of electives provided EGR 631 (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. Attainment of appropriate scores on the Graduate Record Examination (GRE).
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.

Degree Requirements

1. All of the College of Graduate Studies general degree requirements.
2. Completion of a minimum of 21 semester hours (7 courses) of course work from those listed as core courses above. For students who have completed a thesis this requirement is reduced to a minimum of 9 semester hours (3 courses) from the core courses listed above.

3. 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 study program. This examination must be completed before the student has earned 15 semester hours of course credit after admission to the program.
4. Completion of the field study preparatory requirements for "Design, Analysis, and Control", "Energy Systems", "Manufacturing Systems" as stated below. (See Note 1)
5. 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.
6. Completion of the field study. After the student is admitted to candidacy a formal engineering proposal conforming to a standard format 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.
 Note 1: A student's Doctoral Committee may, with the written approval of the Graduate Steering Committee and the Dean of the College of Engineering, design a special course group for a particular student.
7. Defense of field study. Upon completion of the field study a formal engineering report with a standard format shall be submitted to the committee and defended in an oral examination.

Field Study Preparatory Requirements

Design, Analysis, and Control

EGR	538	Sampled Data Control Systems
EGR	611***	Professional Seminar
EGR	632	Justification of Engineering Projects
EGR	633	Advanced Engr. Design
EGR	6346	Advanced Engr. Analysis
	15	Semester Hours
	15	Semester Hours Related Electives
	30	Semester Hours Total

Energy Systems

EGR	5354	Nuclear Power Plants
EGR	611***	Professional Seminar
EGR	632	Justification of Engr. Projects
EGR	634	Synthetic Fuel Process Analysis
EGR	6361	Solar Energy I
	15	Semester Hours
	15	Semester Hours Related Electives
	30	Semester Hours Total

MANUFACTURING SYSTEMS

EGR	5347	Manufacturing Analysis
EGR	632	Justification of Engineering Projects
EGR	611***	Professional Seminar
EGR	633	Advanced Engineering Design
EGR	5321	Quality Control Systems
	15	Semester Hours
	15	Semester Hours Related Electives
	30	Semester Hours Total

***Doctoral Candidates must enroll in EGR 611 for three semesters.

Graduate Faculty

- Professor Luther A. Beale
Structural analysis, design
- Professor Wendell C. Bean
Nuclear engineering, bioengineering
- Professor Otto G. Brown
Turbulent flow; thermal optimization, hemodynamics
- Associate Professor John A. Bruyere
Materials science, metallurgy
- Associate Professor Carl Carruth
Work design and measurement, human factors and motivation
- Assistant Professor Daniel H. Chen
Process control, optimization, numerical methods
- Assistant Professor Shui-Sheng Chern
Computer aided design, controls engineering
- Assistant Professor Hsing-wei Chu
Operations research statistical decision analysis, networks
- Professor James L. Cooke
Process control; power systems analysis
- Professor Floyd M. Crum
Solid state devices in electronic circuits
- Assistant Professor Saeed Daniali
Structural analysis and design
- Professor David C. Gates
Decision-making processes; plant layout, human factors, engineering management
- Associate Professor John P. Grubert
Fluid mechanics, open channel computational hydraulics
- Associate Professor John B. Harvill
Data base management systems, microcomputers
- Assistant Professor Tho-Ching Ho
Fluidization, heat transfer, optimization
- Professor Jack R. Hopper
Reaction kinetics, catalysis
- Associate Professor Narayan R. Joshi
Metallurgical engineering, material science
- Professor Enno Koehn
Construction, planning, scheduling and productivity.
Design and analysis
- Assistant Professor Hikyoo Koh
Software engineering, software testing, artificial intelligence
- Assistant Professor Jogendra K. Kohli
Topology, analysis
- Assistant Professor Kwan R. Lee
Statistics
- Assistant Professor Ku-Yen Li
Mass transfer, thermodynamic properties, gas-liquid reactions
- Associate Professor Peter A. Mantz
Ocean engineering, coastal and wave process
- Professor Eugene P. Martinez
Kinetics and thermal sciences of fluids
- Professor Sterling W. McGuire
Computer science, statistics and optimization techniques
- Professor Harry T. Mei
Computer applications, humidity control, solar energy
- Professor William E. Morgan
Environmental engineering
- Assistant Professor Anh-Tri Nguyen
Computer control, analysis, bioengineering
- Professor David R. Read
Computer science, numerical analysis
- Professor Bruce G. Rogers
Ultimate load characteristics of structures, analysis
- Assistant Professor Yuly A. Saet
Applied Mathematics
- Associate Professor James L. Thomas
Computer-aided Manufacturing, Computer-aided Design
- Assistant Professor Gary L. Viviani
Computer methods for analysis, control of large scale systems
- Professor William R. Wakeland
Control systems design, computer-aided design
- Professor Bobby R. Waldron
Computer science, statistics and information systems
- Professor Richard E. Walker
Rheology, computer applications
- Professor Joseph T. Watt
Digital systems, control, and analog computers
- Professor Carl L. Yaws
Physical and thermodynamic properties, solar energy, cost engineering
- Professor Fred M. Young
Fluid dynamics, heat transfer
- Professor Victor Zaloom
Engineering economics, manufacturing productivity, computer applications
Statistical quality control

Engineering Courses

- | | | |
|-----|---|-------|
| 531 | Materials Science
Principles underlying the behavior of materials existing in the solid, liquid and gaseous phases. | 3:3:0 |
| 532 | Instrumentation
Consideration is given to the design and analysis of instruments that are used to interface with analog, micro-processor and minicomputer applications that involve data acquisition and process control. | 3:3:0 |

- 533 **Computer Methods in Engineering Analysis** 3:3:0
 Computer techniques will be introduced and employed. Numerical methods for solving transcendental equations, polynomials, simultaneous linear algebraic equations and partial differential equations. Monte Carlo method, random numbers and simulation of engineering systems will be introduced.
 Note: Core Course. May be repeated one time for graduate credit with prior approval where course content varies.
- 534 **Nonlinear Analysis** 3:3:0
 Various methods of solving nonlinear differential equations are studied. Analytical, graphical and computer solutions are included.
- 535 **Control Theory** 3:3:0
 Review of control systems analysis involving frequency domain and state variables. Analytical design procedures presented. State variable design. Process control using PID controllers.
- 536 **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.
 Note: Core Course. May be repeated one time for graduate credit, with prior approval, where course content varies.
- 537 **Thermodynamics-Energy Conversion** 3:3:0
 The basic laws of thermodynamics are derived and applied in the analysis of power cycles, energy conversion and specific processes. Basic principles of irreversible thermodynamics and phenomenological relations are presented. An elementary statistical approach is presented with simple examples of the calculation of the transport properties of gases, liquids and solid.
 Note: Core course. May be repeated one time for graduate credit, upon prior approval, where course content varies.
- 538 **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.
 Prerequisite: EGR 5306.
- 539 3:3:0
 The analysis and the utilization of state of the art computer hardware and software to 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.
- 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.
- 5303 **Regression Analysis** 3:3:0
 Review of regression analysis; theory of least squares; multivariate analysis; theory of the general linear hypothesis model.
- 5304 **Nonlinear Programming** 3:3:0
 Theory of linear and nonlinear programming; the lambda and delta-form of the approximating problem; quadratic programming; gradient methods.
- 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.
- 5306 **Linear Systems Control Theory** 3:3:0
 Review of control systems analysis involving frequency domain and state variables. Analytical procedures for design of Lag, Lead, Laglead, and PID compensation. State variable system representation and design. Extensive use of computers.
 Prerequisite: undergraduate course in control theory or consent of instructor.
- 5308 **Cost and Optimization Engineering** 3:3:0
 Includes the mathematics of cost comparisons, profitability, productivity, and optimization with emphasis on processing or construction, cost estimation and control.
- 5309 **Problems in Design and Analysis** 3:3:0
 Advanced techniques and analysis involving microcomputers, finite elements, finite differences.
- 5310 **Advanced Concrete Design** 3:3:0
 Analysis and design of concrete members with consideration given to pre-stressing or post-stressing of beams and structural components.

- 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.
- 5312 Transport Mechanisms.** 3:3:0
This course will be concerned with individual mechanisms of heat transfer, mass transfer, or momentum transfer. May be repeated for credit as topics vary.
- 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.
- 5315 Theory of Elasticity** 3:3:0
General analysis of stress and strain, equations of equilibrium and compatibility, stress and strain relations, two dimensional stress problems, elastic energy principles, thermoelastic problems.
- 5316 Operations Research I** 3:3:0
The use of advanced mathematical models for optimizing engineering problems with emphasis on management decision. Includes special techniques based on systems analysis, design of experiment, linear programming, queuing, simulation and probabilistic analysis.
- 5318 Stress Analysis** 3:3:0
Use of reflection and refraction photoelastic apparatus to determine state of stress in opaque and transparent structural models. Demonstration of brittle coating techniques. Comparison of electrical resistance and mechanical strain gages. Investigation of dynamic loading with oscilloscopes and other recording apparatus.
- 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.
- 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 Rheology** 3:3:0
A study of non-Newtonian liquids with emphasis on principles and fundamentals. Methods of measuring rheological properties of non-elastic and elastic liquids are developed. Laminar and turbulent flow characteristics are reviewed.
- 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.
- 5324 Wave Mechanics in Particulate Matter** 3:3:0
Propagation of elastic waves in semi-infinite media. Surface waves and body waves. Behavior of particulate masses under the effect of dynamic loading, impact and transient phenomena. Effect on substructures of waves from industrial, seismic and nuclear sources. Mechanical and electronic recording.
- 5325 Information Theory** 3:3:0
Aspects applicable to all fields of engineering. Entropy as a measure of information: signal processing; channel capacity; and coding theory.
- 5326 Waves and Coastal Processes** 3:3:0
Hydrodynamics of waves, wave generation, reflection, energy transmission and dissipation. Coastal phenomena, harbors and breakwaters, analysis of tides, and tidal currents. Salt water, fresh water interaction and diffusion in estuaries; erosion and shoaling in tidal waters.
- 5327 Numerical Methods of Structural Analysis** 3:3:0
Matrix methods applied to analysis of trusses, beams and frames.
- 5328 Inelastic Theory of Structures** 3:3:0
Investigation of structural behavior under conditions of overload. Design of structures using principles of ultimate strength and plastic design theories. Consideration of load and safety factors, stress redistribution and shakedown.
- 5329 Water and Waste Analysis** 3:3:0
Fundamental treatment of sanitary chemistry and microbiology; an intensive study of basic laboratory techniques and instrumentation.

- 5330 **Wastewater Treatment** 3:3:0
Principles of treatment for domestic and industrial wastewaters with emphasis on process kinetics.
- 5331 **Similitude and Model Design** 3:3:0
Dimensional analysis, data processes, prediction equations and model design, including a study of distorted and dissimilar models. Models studied include structural fluid flow, thermal, electrical, magnetic, acoustical and illumination types. Various analogs from second-order ordinary and partial differential equations are also discussed.
Prerequisite: Mth 434G recommended.
- 5332 **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: EGR 5316 or equivalent.
- 5333 **Production Control** 3:3:0
Advanced topics in techniques employed in different types of manufacture for planning and controlling production.
- 5334 **Salary Administration for Engineers and Scientists** 3:3:0
A study of salary incentives, job evaluation and merit rating for engineering and scientific personnel, executive and managerial compensation.
- 5336 **Operations Research III** 3:3:0
Recent advances in the methodology and philosophy of operations research.
Prerequisite: Consent of instructor.
- 5337 **System Simulation** 3:3:0
Study of the design, construction, testing and operation of process models for simulation. Starting with simple hand-computed simulations, the student progresses to relatively complex models requiring the use of a high-speed digital computer.
- 5338 **Reclamation Engineering Seminar** 3:3:0
Investigations of the reclamation of resources by multiple use, reuse and improvement of existing sources to meet quality requirements.
- 5340 **Kinetics** 3:3:0
Rate equations are developed by the application of statistical methods and the theory of absolute reaction rates. Partition functions and potential energy surfaces will be introduced. Considerable attention will be given to the measurement of reaction rates and the interpretation of experimental data. May be taken for graduate credit in chemistry or engineering.
- 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 adsorption, ion exchange, drying and leaching operations. Less conventional mass-transfer operations are also considered.
- 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.
- 5344 **Process Modeling** 3:3:0
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.
- 5345 **Reactor Design I** 3:3:0
Basic principles of reactor design are presented. The primary goal is the successful design of chemical reactors. Major reactor types are treated, giving particular attention to their performance capabilities.
- 5346 **Optimization Techniques** 3:3:0
Analytical methods of constrained and unconstrained optimization. Geometric programming; linear programming. One-dimensional search techniques. Multivariable search techniques. Dynamic programming. Variational methods.
- 5347 **Manufacturing Analysis** 3:3:0
The course is designed to provide the background analysis required to understand manufacturing operations and to predict manufacturing behavior. It includes material behavior, metal cutting, metal forming, new and unconventional cutting and forming techniques, machine tool vibration and manufacturing cost optimization.
- 5349 **Properties of Gases and Liquids** 3:3:0
Properties of gases and liquids. Major physical, transport and thermodynamic properties of gases and liquids. Pure Components and mixtures. Theory, correlation and estimation methods covered.

- 5350 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.
- 5351, 5352, 5353 Electric Power Systems Analysis I, II, III** 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.
- 5354 Nuclear Power Plants** 3:3:0
Nuclear reactor neutron kinetics; core reactivity effects of control poisons, coolant and fuel temperatures, fission product poisons; self regulation, automatic control; startup and shut-down; types of nuclear plants foreseen in electric power generation; special problems and benefits of nuclear power plants.
- 5356 Optimal Control**
Bellman's Dynamic Programming, calculus of variations, and Pontryagin's minimum principle. System representation by state variables. Computer methods utilized.
Prerequisite: EGR 535 or consent of instructor.
- 5359 Seminar in Engineering Administration** 3:3:0
Direct reading, analysis and research in the classic and modern literature of engineering administration. May be repeated for credit where subject matter differs.
- 5360 Case Problems in Engineering Administration** 3:3:0
The case method applied to complex administration problems encountered by engineers. May be repeated for credit where subject matter differs.
- 5362 Decision Making Processes** 3:3:0
A study of the bases and philosophical implications of executive decision-making. Elementary game theory, minimax and other strategies. Bayesian inference, subjective probability, teleology of measurement.
Prerequisite: Consent of instructor.
- 5363 Administrative Control Systems** 3:3:0
Problems affecting the engineer in design, analysis and control of information systems.
- 5364. Digital Hardware Design** 3:3:0
Problem formulation, dependency notation, programmable combinational circuits, designing for maintainability, algorithmic state machines.
Prerequisite: Logical design, or consent of instructor.
- 5365 Industrial Planning** 3:3:0
Industrial planning and decisions. Plant location, design, evaluation. Symbolic logic, relative importance factors, probabilistic models, fiscal factors.
- 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
Transition from engineering to management, decision making responsibilities - a comparison; planning, organizing and staffing in a technical environment, technical project management, team leadership, appraising engineers.
- 5370 Technical Communication** 3:3:0
Improving the effectiveness and efficiency of technical communications; interpersonal relations and organizational structure for communications.
- 5371 Seminar in Administrative Practices** 3:3:0
Study of the interrelationships between the fields of economics, politics, physical science and social science and the effects upon the management of engineering work. May be repeated for credit where subject matter differs.
- 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) Non-linear 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.

- 5390 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) Non-linear 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.
- 5391 Work Systems Engineering** 3:3:0
Study of current research in methods engineering and work measurement; work design; work systems, systems of standard data and predetermined motion time data, statistical treatment of work measurement.
- 5399 Human Factors Engineering** 3:2:3
The specialized adaptation of engineering designs to the human operator's role in man-machine systems.
- 611 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.
- 631 Design Projects** 3:A:0
Prerequisite: Admission to candidacy.
- 6311 Optimal Control of Power Systems** 3:3:0
Addresses the issue of economic operation of power systems by application of control theory and the digital computers with emphasis on computer algorithms.
Prerequisite: Proficiency in computer programming, undergraduate power course.
- 6313 Digital Filters** 3:3:0
Introduction to digital filtering. Recursive, non-recursive filters and their design. Butterworth, chebyshev filters.
Prerequisite: Proficiency in computer programming.
- 632 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.
- 633 Advanced Engineering Design** 3:3:0
Application of various engineering concepts and principles combined with economic considerations and decision-making processes to the rigorous methods required in the design, analysis, and synthesis of complex engineering systems and their components.
- 634 Synthetic Fuel Process Analysis** 3:3:0
Attention is devoted to engineering fundamentals required to develop synthetic fuels from alternate energy sources of coal, shale oil and tar sands. The fundamentals of thermodynamics, kinetics, mass transfer, fluid mechanics, and heat transfer will be discussed in relation to the development of alternate energy sources.
- 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.
- 6341 Absorption** 3:3:0
The theoretical aspects of gas-phase and liquid phase diffusion systems are presented, and empirical correlations for diffusion coefficients are critically surveyed. Equipment for gas-liquid operations, and the estimation of gas-liquid solubilities, are discussed. The principles of gas absorption will be applied to chemical reactions occurring on the surface of solid catalysts and on liquid surfaces.
- 6342 Design Principles of Equilibrium Stages** 3:3:0
Thermodynamics of fluid-phase equilibria is reviewed with emphasis on the prediction and calculation of fluid-phase densities, enthalpies, fugacities and activities. Rigorous multicomponent-multistage methods are developed to design problems in mass transfer operations with emphasis on absorption, extraction, and distillation. Computer aided design is emphasized.
- 6343 Reactor Design II** 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 are discussed in terms of residence time distribution. The importance of temperature effects is stressed.
Prerequisite: Egr 5345 or equivalent.
- 6345 Professional Practice** 3:3:0
The development of engineering as a profession. Code of ethics and their justification, licensing requirements, engineer-client relationships and responsibilities. Credit will be given only to students who have passed the professional part of a state engineering registration examination.

6346	Advanced Engineering Analysis	3:3:0
	Methods of analysis based on finite differences, finite elements, matrices and special numerical techniques applied to engineering systems. The computer is used as a tool of investigation and optimization.	
6350	Nuclear Reactor Plant Dynamics	3:3:0
	Operating characteristics of reactor systems; modeling of neutronic, fluid, heat transfer and fluid processes; dynamics, stability and control of reactor plant systems; engineered safeguards. <i>Prerequisite: Egr 5354 or equivalent.</i>	
6351	Nuclear Reactor Kinetics	3:3:0
	Development of kinetics equations; special topics in space-time kinetics, noise analysis, rod oscillator tests, xenon stability, special control problems. <i>Prerequisite: Egr 5354 or equivalent.</i>	
6361	Solar Energy I	3:3:0
	Origin, nature and availability. Heat transfer considerations. Plate collectors, energy storage and thermal performance are discussed. Applications and experimentation are covered. <i>Prerequisite: Egr 537 or equivalent.</i>	
6362	Solar Energy II	3:3:0
	The design of solar heating and cooling systems. Performance estimates and economic analyses are included. <i>Prerequisite: Egr 6361.</i>	
6364	Microcomputer Based Design	3:3:0
	Registers and data manipulation, computer organization, memory, input-output, algorithmic processes. Design Application. <i>Prerequisite: Logical design, or consent of instructor.</i>	
661	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 6 or 12 hours credit per semester. Must be repeated for credit until field study is completed. Total credit: 6 semester hours per section.	
662	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 6 or 12 hours per semester. Must be repeated for credit until field study is completed. Total credit: 6 semester hours per section.	
669A-669B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

ChE 435G Advanced Analysis
 ChE 437G Computer Applications
 ChE 4111G Seminar
 ChE 4316G Stagewise Processes
 ChE 4318G Advanced Distillation
 ChE 4321G Process Economics
 ChE 4322G Unit Operations
 ChE 4323G Engineering Materials
 ChE 4325G Introduction to Nuclear Engineering
 CE 420G Photogrammetry
 CE 430G Indeterminate Structures
 CE 431G Hydraulics II
 CE 432G Planning, Scheduling and Estimating
 CE 433G Environmental Health Engineering
 CE 434G Soil Engineering
 CE 435G Water and Waste Water Treatment
 CE 437G Transportation
 CE 438G Reinforced Concrete Design
 CE 439G Structural Steel Design
 CE 4310G Soil-Structure Interaction
 CE 4312G Advanced Structural Design

CS 439G Scientific Computer Application
CS 4101G Special Topics
CS 4201G Special Topics
CS 4301G Special Topics
CS 4302G System Analysis and Design
CS 4305G Introduction to Information Structure
CS 4306G Techniques of Information Processing and Retrieval
CS 4307G Survey of Programming Languages
CS 4308G Introduction to Compiler Theory
CS 4309G Introduction to Simulation Techniques
CS 4310G Computer Architecture
CS 4321G Computer Uses in Education
CS 4401G Special Topics
EE 432G Electronics III
EE 436G Control Engineering
EE 4302G Communication Theory
EE 4304G Advanced Topics
EE 4306G Minicomputers
EE 4307G Microcomputers
EE 4308G Automata Theory
EE 4310G Computer Architecture
Egr 438G Introductory Petroleum Engineering
IE 430G Quality Assurance and Control
IE 432G Statistical Decision Making for Engineers
IE 434G Materials Science and Manufacturing
IE 435G Production and Inventory Control
IE 437G Operations Research
IE 4313G Human Engineering
IE 4315G Organization and Management
MTH 4301G Differential Equations and Linear Algebra
MTH 4302G Partial Differential Equations
MTH 431G Complex Variables
MTH 4315G Numerical Analysis
MTH 4316G Mathematical Programming
MTH 4317G Modern Developments in Statistical Methodology
MTH 4321G Least Squares and Regression Analysis
MTH 4322G Analysis of Variance
MTH 433G Linear Algebra
MTH 437G Probability and Statistics
MTH 4386 Theory of Statistics
ME 432G Mechanical Vibrations
ME 434G Internal Combustion Engines
ME 435G Turbomachinery
ME 438G Environmental Systems Engineering
ME 439G Advanced Strength of Materials
ME 4311G Controls Engineering
ME 4312G Gas Dynamics
ME 4313G Transport Theory II
ME 4315G Thermodynamics III
ME 4316G Engineering Project
ME 4317G Engineering Analysis II

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 a thesis and a non-thesis option are available.

Admission

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. Satisfy the depth and breadth requirements of knowledge in Computer Science as defined by the Graduate Faculty of the Department of Computer Science. This may be done with a combination of academic achievement, professional experience and individual examination by the Department's Graduate Faculty.
3. 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.

Degree Requirements

A. Core Courses

Students in the masters program in Computer Science are required to establish competence in several areas considered basic to the field of Computer Science. The Core Requirement consists of the indicated number of courses in each field listed below.

Number	Area	Courses
2	Programming Languages	CS 5314, CS 5315, CS 5319, CS 5320
2	Operating Systems and Computer Architecture	CS 5310, CS 5322, CS 5324, CS 5328
1	Theoretical Computer Science	CS 5313, CS 5330, CS 5329
1	Data and File Structures or Other Topics	CS 5311, CS 5312, CS 5331, CS 5332, CS 5333, CS 5334, CS 5335, CS 5336, CS 5340, CS 5339

6 courses (18 semester hours)

B. Option I (Thesis)

1. Satisfactory completion of the depth and breadth requirements.
2. Completion of the core requirements listed above with at least a B (3.0) average. One C is permitted in this area if it is balanced by an A in one other course.
3. Completion of nine additional hours in graduate level courses* OR completion of an approved minor of nine hours with at least a B (3.0) average. One C is permitted in this area if it is balanced by an A in one other graduate level course.*
4. Completion of CS 669A and 669B and submission of an acceptable thesis.
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. Satisfactory completion of the depth and breadth requirements.
2. Completion of the core requirements listed above with at least a B (3.0) average. One C is permitted in this area if it is balanced by an A in one other graduate level course.*

3. All non-thesis students must take and satisfactorily complete CS 5340. This course consists primarily of a significant research project and the submission of a written professional report.
4. Completion of an additional fifteen hours in graduate level Computer Science courses **OR** the completion of an approved minor of nine hours, with six additional hours of graduate level courses* in Computer Science. One C is permitted in this area if it is balanced by an A in one other graduate level course.*
5. Successful completion of an eight hour comprehensive examination, which may be written, oral, or a combination of both upon determination of the Computer Science Graduate Faculty. Failure to pass this examination in two attempts will result in the student being dropped from the degree program in Computer Science.

*NOTE: All courses for the Master of Science in Computer Science must be 500 level or above; 400 and 400G courses may not be applied toward degree requirements.

Students are expected to submit scores from the advanced Computer Science section of the Graduate Record Examination during their last semester of course work toward the degree.

Computer Science Courses

- | | | |
|------|---|-------|
| 5301 | Computer Systems for Educational Applications
Functional units of computers including both hardware and firmware; software; analysis, design and evaluation of computing configurations for educational applications; cost estimation techniques for both academic and administrative applications. (Not for Computer Science majors)
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5310 | Operating Systems and Computer Architecture II
Study of concurrent processes, support structures for modular programming, resource allocation and protection, pipelining and parallelism, telecommunications, networks and distributed processing.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5311 | Database Management Systems Design
Advanced file structures; database concepts including relational, hierarchical and network logical models; data description and manipulation languages.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5312 | Artificial Intelligence
Introduction to basic concepts and techniques of artificial intelligence and to insights into active research and application areas. Emphasis is placed on representation methods and strategies in both heuristic and algorithmic approaches. Students are expected to implement a small intelligent system of their design in LISP.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5313 | Algorithms
Topics on what can and cannot be proven about computational complexity including Algorithm design methodologies.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5314 | Software Design and Development
Program development techniques with structured methodology, structured design, the Jackson method, top-down development, structured programming, programming style, program testing and debugging, and other current techniques.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5315 | Theory of Programming Languages
Theoretical aspects of parsing context free languages, translation specifications, and machine-independent code, finite state grammars, and recognizers, lexical scanners, push-down automata, recursive descent.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5319 | Compiler Construction
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 structured languages, and an introduction to code optimization.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |
| 5320 | Formal Methods in Programming Languages
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.
<i>Prerequisite: Consent of Department Head.</i> | 3:3:0 |

- 5322 Performance Evaluation** 3:3:0
 A survey of techniques of modeling concurrent processes and the resources they share. Includes levels and types of system simulation, performance prediction, bench-marking and synthetic loading, hardware and software monitors.
Prerequisite: Consent of Department Head.
- 5324 Computer Communication Networks and Distribute Processing** 3:3:0
 A study of networks of interacting computers. The problems, rationales, and possible solutions for both distributed databases will be examined. Major national and international protocols including SNA, X.21, and X.25 will be presented.
Prerequisite: Consent of Department Head.
- 5328 Micro-computer Systems and Local Networks** 3:3:0
 A consideration of the uses and organization of microcomputers. Typical eight or sixteen bit microprocessors will be described. Microcomputer software will be discussed and contrasted with that available for larger computers. Each student will gain hands-on experience with a microcomputer.
Prerequisite: Consent of Department Head.
- 5329 Applied Combinatorics and Graph Theory** 3:3:0
 A study of combinatorial and graphical techniques for complexity analysis including generating functions, recurrence relations, Polya's theory of counting, planar directed and undirected graphs, and NP complete problems. Applications of the techniques to analysis of algorithms in graph theory and sorting and searching.
Prerequisite: Consent of Department Head.
- 5330 Theory of Computation** 3:3:0
 A survey of formal models for computation. Includes Turing Machines, partial recursive functions, recursive and recursively enumerable sets, the recursive theorem, abstract complexity theory, program schemes, and concrete complexity.
Prerequisite: Consent of Department Head.
- 5331 Information System Design** 3:3:0
 A practical guide to Information System Programming and Design. Theories relating to module design, module coupling, and module strength are discussed. Techniques for reducing a system's complexity are emphasized. The topics are oriented toward the experienced programmer or systems analyst.
Prerequisite: Consent of Department Head.
- 5332 Information Storage and Access** 3:3:0
 Advanced data structures, file structures, databases, and processing systems for access and maintenance. For explicitly structured data, interactions among these structures accessing patterns, and design of processing/access systems. Data Administration, processing system life cycle, system security.
Prerequisite: Consent of Department Head.
- 5333 Distribution System Analysis** 3:3:0
 A consideration of the problems and opportunities inherent in distributed databases on a network computer system. Includes file allocation, directory systems, deadlock detection and prevention, synchronization, query optimization, and fault tolerance.
Prerequisite: Consent of Department Head.
- 5334 Pattern Recognition** 3:3:0
 An introduction to the problems, potential, and methods of pattern recognition through a comparative presentation of different methodologies and practical examples. Covers feature extraction methods, similarity measures, statistical classification, minimax procedures, maximum likelihood decisions, and the structure of data to ease recognition. Applications are presented in image and character recognition, chemical analysis, speech recognition, and automated medical diagnosis.
Prerequisite: Consent of Department Head.
- 5335 Computer Graphics** 3:3:0
 An overview of the hardware, software, and techniques used in computer graphics. The three types of graphics hardware: refresh, storage, and raster scan are covered as well as two-dimensional transformations, clipping, windowing, display files, and input devices. If a raster scan device is available, solid area display, painting and shading will be covered. If time allows, three-dimensional graphics may be included.
Prerequisite: Consent of Department Head.
- 5336 Modeling and Simulations** 3:3:0
 A study of the construction of models which simulate real systems. The methodology of solution should include probability and distribution theory, statistical estimation and inference, the use of random variates, and validation procedures. A simulation language should be used for the solution of typical problems.
Prerequisite: Consent of Department Head.
- 5339 Information System Analysis** 3:3:0
 Methods and considerations for planning, organizing, implementing, and evaluating information systems; current systems analysis tools and techniques are presented.
Prerequisite: Consent of Department Head.

5340	Special Topics 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. <i>Prerequisite: Graduate standing, consent of the graduate advisor and instructor.</i>	3:3:0
5402	Micro Computers I Architecture, hardware components, languages, operating systems, software systems and utilization of micro computers. <i>Prerequisite: Consent of Department Head.</i>	3:3:0
5403	Micro Computers II Continuation of CS 5402. <i>Prerequisite: CS 5402 and consent of Department Head.</i>	3:3:0
669A-669B	Thesis Thesis. <i>Prerequisite: Consent of Department Head.</i>	6:A:0

Department of Mathematics

The Department of Mathematics offers a program of study leading to the Master of Science (MS) 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 pure and 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. Successfully complete 27 semester hours of undergraduate mathematics including courses equivalent to or comparable to the following: linear algebra, differential equations, advanced calculus, modern algebra and statistics.

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. Score 1100 or higher on the Graduate Record Examination.
2. Successfully complete 12 semester hours of approved graduate work in mathematics.
3. Remove any deficiencies in mathematics designated by the Graduate Advisor and the Department Head.
4. 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 part 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 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 a committee designated by the Graduate Faculty.
3. Include at least three courses from among the following five possibilities:
 - Math 531 Theory of Functions of a Real Variable
 - Math 532 Modern Algebra
 - Math 534 Topology
 - Math 5310 Numerical Analysis or
Math 4315G Numerical Analysis
 - Math 5311 Complex Variables or
Math 431G Complex Variables
4. Satisfy the general degree requirements as set forth in this catalog.

Graduate Faculty

Associate Professor Joseph A. Baj, II
Topology, analysis

Professor George Berzsenyi
Analysis, problem solving

Associate Professor Ralph Brookner
Statistics

Professor Russell W. Cowan
Differential equations, applied
mathematics

Professor Sterling C. Crim
Applied mathematics

Assistant Professor Jogendra K. Kohli
Topology, analysis

Associate Professor Michael A. Laidacker
Topology, applied mathematics

Assistant Professor Kwan R. Lee
Statistics

Assistant Professor Alec Matheson
Functional and numerical analysis

Professor George D. Poole
Numerical linear algebra, computer
science

Assistant Professor Yuly A. Saet
Applied mathematics

Professor Jeremiah M. Stark
Analysis, applied mathematics

Professor Howard C. Vanzant
Applied mathematics

Associate Professor Sam M. Wood, Jr.
Analysis, abstract algebra

Mathematics Courses

- | | | |
|-----|---|-------|
| 531 | Theory of Functions of Real Variable
Analytical functions, pathological functions, set functions, Riemann integral, measure theory, Lebesgue integral, Riemann-Stieltjes and Lebesgue-Stieltjes integral.
<i>Prerequisite: Graduate standing and Mathematics 338.</i> | 3:3:0 |
| 532 | Modern Algebra
Groups, rings and the theory of fields. The theory of fields includes the study of subfields, prime fields, algebraic fields extensions and Galois fields.
<i>Prerequisite: Graduate standing and Mathematics 335 or its equivalent.</i> | 3:3:0 |
| 534 | Topology
Topological spaces, metric spaces, compact spaces, embedding, Urysohn's lemma and homotopy.
<i>Prerequisite: Graduate standing and Mathematics 338.</i> | 3:3:0 |
| 535 | Introduction to Advanced Analysis
The Riemann mapping theorem, prime number theorem, functions of finite order, Turan's proof of Fabry gap theorem, other topics as time permits.
<i>Prerequisite: Graduate standing and Mathematics 431.</i> | 3:3:0 |

- 537 **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 431.
- 538 **Fourier Series** 3:3:0
Expansion of functions in Fourier series, orthogonal sets of functions, orthonormality. Fourier integrals. Applications.
Prerequisite: Graduate standing and Mathematics 331 or 3301.
- 5301 **Operational Mathematics** 3:3:0
Ordinary differential equations, the Laplace Transform, elementary properties; Inverse Transforms, applications of the Laplace Transform to ordinary differential equations.
Prerequisite: Graduate standing and Mathematics 331 or 3301.
- 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 331 or 3301.
- 5304 **Functional Analysis** 3:3:0
Study of linear topological spaces, convexity, Hilbert spaces, Banach spaces, applications.
Prerequisite: Graduate standing and Mathematics 338
- 5310 **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.
- 5311 **Complex Variables** 3:3:0
Conformal mapping and analytic continuation, calculus of residues, and applications.
Prerequisite: Graduate standing and Mathematics 431 or its equivalent.
- 5315 **Finite Element Analysis** 3:3:0
Application of the finite element method to steady-state and time-dependent problems and to the theory of elasticity. Radial and axisymmetric field problems. Higher-order elements.
Prerequisite: Graduate standing, Mathematics 331 or 3301, and some knowledge of computer programming.
- 5325 **Numerical Linear Algebra** 3:3:0
Numerical Solution of linear systems; direct and interactive techniques including LU and Cholesky decompositions. Algebraic eigenvalue problems, Householder reflectors, Givens rotations and the QR method.
Prerequisite: Mathematics 233, Programming language.
- 5326 **Topics in Probability and Statistics** 3:3:0
Possible topics include Markov Chains, Stochastic processes Stochastic Differential Equations, Sampling Theory. Course may be repeated for a maximum of six hours of credit when topic varies.
Prerequisite: Graduate standing and consent of instructor.
- 5327 **Data Processing** 3:3:0
Includes a history of computers, an overview of computer and data organization, computer languages, program design, and applications to computational mathematics.
Prerequisite: Graduate standing and consent of instructor.
- 5328 **History of Mathematics** 3:3:0
Historical origin and development of mathematical concepts. The lives and achievements of great mathematicians.
Prerequisite: Graduate standing and Mathematics 335 or 338.
- 5330 **Enrichment Topics in Mathematics** 3:3:0
A potpourri of important mathematical ideas not normally covered in other courses.
Note: Course may be repeated for a maximum of six hours of credit when topic varies. Prerequisite: Graduate standing and Mathematics 335 or 338
- 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.
- 5332 **Topics in Geometry** 3:3:0
Topics include Differential Geometry, Algebraic topology, Homotopy Theory, Non-Euclidean Geometry and Advanced Euclidean Geometry. Course may be repeated for a maximum of six hours of credit when topic varies.
Prerequisite: Graduate standing and consent of instructor.

- 5333 **Topics in Number Theory** 3:3:0
 Topics include Prime Number Theory, Irrational Number Theory, Analytic Number Theory, Diophantine Equations and Algebraic Number Theory. Course may be repeated for a maximum of six hours of credit when topics varies.
Prerequisites: Graduate standing and consent of instructor.
- 5334 **Seminar in Problem Solving** 3:3:0
 Methodology of problem solving, extreme cases, similarity, continuity, generalizations and transformations. Course may be repeated for a maximum of six hours of credit when topic varies.
Prerequisite: Graduate standing and Mathematics 335 or 338.
- 5335 **Topics in Mathematics** 3:3:0
 Topics include Mathematical Logic, Group Theory, Field Theory, Approximation and Interpolation, Game Theory and Calculus of Variations. Course may be repeated for a maximum of six hours of credit when topic varies.
Prerequisite: Graduate standing and consent of instructor.
- 669A-669B **Thesis** 6:A:0
Prerequisite: Approval of graduate advisor.

The approved list of 400G level courses and graduate engineering courses may be taken for graduate credit, with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University, or in this Bulletin.

Mth 4202G Partial Differential Equations
 Mth 4203G Vector Analysis
 Mth 4315G Numerical Analysis
 Mth 4316G Mathematical Programming
 Mth 4321G Least Squares and Regression Analysis
 Mth 4322G Analysis of Variance
 Mth 4325G Finite Element Analysis
 Mth 433G Linear Algebra II
 Mth 435G Introductory Topology
 Mth 4351G Cultural Approach to Mathematics
 Mth 437G Mathematical Theory of Probability
 Mth 438G Statistical Methods
 Egr 5303 Regression Analysis
 Egr 5304 Nonlinear Programming
 Egr 5305 Reliability
 Egr 5316 Operations Research
 Egr 5319 Design of Experiments

College of Fine Arts and Communication

The College of Fine Arts and Communication offers graduate programs of study leading to the Master of Science degree in the fields of speech communication, theater, speech pathology, audiology and deaf education, and the Master of Music and Master of Music Education degrees.

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 Communication

A Master of Science degree is offered by the Department of Communication in Speech Communication, Theater, Speech Pathology, Audiology, or Deaf Education. The master's 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 the above fields of study. Persons seeking admission to these programs must meet the general requirements for admission that are outlined in this bulletin. An exception to these requirements may be made for the deaf adult student wishing to major in Deaf Education (see below). Generally, an applicant should have completed 24 semester hours of undergraduate courses in the appropriate curriculum. Each student's curriculum choices will be guided by a graduate advisor.

Specializations in Speech Pathology/Audiology/Deaf Education

The candidate for the Master of Science degree in any one of the above areas of specialization must meet all of the College of Graduate Studies' general degree requirements as listed in this catalog. The candidate must complete a minimum of 36 semester hours, including six semester hours of electives and, in addition, obtain a minimum of 150 supervised clock hours of clinical experience. An optional thesis program may be substituted for the six hours of electives, with faculty approval and advisement.

Students who have completed their Bachelor's degree in one of the above areas at Lamar will have completed the undergraduate core in Speech and Hearing and are eligible for admission into the graduate program if they meet the minimum entrance requirements of the College of Graduate Studies. All other applications must be reviewed by a committee of the graduate faculty of the Speech and Hearing Center. The committee will follow the criteria for student/faculty ratios as established by the American Speech and Hearing Association and individual decisions for admission will be made based on: 1. Student appointments available; 2. the student's undergraduate GPA; 3. the student's GRE scores; 4. The student's undergraduate curricular preparation; and 5. The student's letter of recommendation. Students admitted to the graduate program with specific curricular deficiencies will be expected to remove the deficiencies before being admitted to candidacy.

Students completing the graduate programs in Speech Pathology or Audiology will be eligible for membership in the American Speech and Hearing Association and will have completed the academic and supervised clinical practicum requirements for the Certificate of Clinical Competence. These students will also have completed the academic and clinical requirements for license in Audiology or Speech Pathology in Texas and all other states within the United States which offer licenses in Audiology or Speech Pathology. Further, those students desiring to practice Audiology or Speech Pathology in the public schools will not have to complete additional requirements. The Texas Education Agency in 1984 determined the license to be the credential of choice.

Students completing the graduate program in Deaf Education will be eligible for national certification in Deaf Education (CED). Certification by the Texas Education Agency to teach as a deaf educator in the public schools may require additional curricular preparation. Student teaching (a requirement for teacher certification in Texas) may be completed during the period of study but may not be taken for graduate credit or counted in the masters degree curriculum.

Professional Certification Requirements of the American Speech & Hearing Association Including Undergraduate Work

The Certificate of Clinical Competence in Speech Pathology or Audiology requires the completion of 60 semester hours that includes 18 hours in fundamentals and 42 hours in the management of disorders of communication. Of these 42 hours, 24 not including thesis must be in courses in either Speech Pathology or Audiology, and no fewer than six in either. Furthermore, 30 of the 42 semester hours must be in the courses acceptable toward a graduate degree. Certification also requires 300 hours of CCC supervisor-verified clinical practicum.

Admission Criteria for Deaf Students

An exception to the existing GRE requirements as outlined in this bulletin may be made for those individuals who wish to major in Deaf Education and who are themselves congenitally or pre-lingually deaf. Such applicants must have at least a severe or profound hearing loss across the speech frequencies in their better ear and must utilize a visual-verbal, rather than auditory-verbal, system of communication. For such individual, an undergraduate cumulative grade point average of 2.5 (4 point system) and an IQ equivalent score of 120 on the Raven Progressive Matrices Test may be accepted in lieu of the GRE requirement.

Specialization in Speech Communication

The candidate for the Master of Science Degree in Speech Communication must meet all of the College of graduate Studies general degree requirements as listed in the catalogue. The student must complete a minimum of 36 semester hours of study including SPC 530, 532, 533, 5331, 534 and 536. In addition to these required courses the student will select, with faculty approval, an additional 18 semester hours of study which are consistent with career objectives and professional interest. A thesis may substitute for 6 semester hours of elective coursework.

Through the use of elective coursework and the thesis option, a number of areas of emphasis within the field of speech communication are possible. However, the primary focus of the degree program is on organizational communication with concentration in the areas of communication management, internal and public relations, personnel training and development and organizational systems.

Graduate Faculty

Professor Robert F. Achilles Speech pathology	Associate Professor John P. Johnson Speech pathology, speech science, Communication theory
Associate Professor Mary Alice Baker Speech, organizational communications	Assistant Professor Jess Freeman King Education of the deaf
Associate Professor Don R. Campbell Deaf education	Associate Professor Lane Roth Mass communication
Associate Professor W. Patrick Harrigan, III Speech communication	Professor Robert Moulton Deaf education, speech pathology
Professor DeWitte T. Holland Speech communication	Professor Olen Pederson Audiology, speech pathology
Professor S. Walker James Theater	

Speech Courses

515, 525 Individual Study	1-2:A:0
Independent study of special problems in disorders of communication.	
530 Communication Research	3:3:0
Empirical research methodologies and design for knowledge discovery and validation.	
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.	

5303	Voice Disorders Functional and organic voice disorders, diagnosis and treatment.	3:3:0
5304	Cleft Palate Nature, evaluation and treatment of speech disorders related to orofacial anomalies.	3:3:0
5305	Diagnostics and Counseling Evaluation and counseling procedures in communication disorders.	3:3:0
5306	Language Disorders and Mental Retardation Two topics: a) language disorders and b) communication problems relating to the mentally retarded.	3:3:0
5307	Articulation Disorders Nature, evaluation and treatment of articulation disorders.	3:3:0
5308	Advanced Speech Science Acoustic nature of speech perceptual processes. Project on spectrography required.	3:3:0
5309	Advanced Clinical Practice Advanced diagnostics and therapy. May be repeated for credit.	3:0:10
531	Advanced Public Relations Theory, research and contemporary problems in corporate or institutional communication relations.	3:3:0
5311	Instructional Methods in Education of Deaf Children Methods, curriculum and classroom procedures for the teacher of the deaf.	3:3:0
5312	Advanced Manual Communication Advanced sign language including American Sign Language (ASL) and interpreting.	3:3:0
5313	Speech Development in the Hearing Impaired Speech for the young hearing handicapped, home training and therapy plans.	3:3:0
5314	Advanced Speech for the Deaf Curricular and methodological considerations for improving the speech of the deaf.	3:3:0
5316	Language for the Deaf Language development theory applied to the hearing impaired.	3:3:0
5317	Advanced Language for the Deaf Language development and correction in the older deaf child and adult.	3:3:0
5318	Special Audiometric Tests Test batteries for peripheral vs. central site of lesion, non-organicity, electrophysiological assessment.	3:3:0
5319	Bone Conduction and Masking Test procedures for determining individual ear status, includes impedance audiometry.	3:3:0
5320	Pediatric Audiology Hearing evaluation in the young patient, method and theory.	3:3:0
532	Small Group Processes Theory, research, and analysis of contemporary problems in group relations, structure, and communication.	3:3:0
5322	Medical Audiology Study of otologic pathology and influence upon auditory/vestibular systems.	3:3:0
5323	Electrophysical Assessment of Hearing Current Electrophysiological auditory assessment; includes ENG, BSER, and Impedance.	3:3:0
5324	Advanced Hearing Aids Pro and Cons of amplification theory and practicum	3:3:0
5325	Advanced Directing Theory and problems in directing plays of different periods and styles including musical comedy. <i>Prerequisite: The 335 or equivalent.</i>	3:2:3
5326	Psychology of Deafness Psychological, personal and social impact of deafness.	3:3:0
5327	Advanced Auditory Rehabilitation Speech reading, auditory training, amplification and counseling for the aurally impaired.	3:3:0
5331	Organizational Communication Theory, research, problems and application in field analyses of communication processes and systems.	3:3:0
5340	Studies in Modern Theater Trends in theater production, theory, practice and techniques from Adolph Appia to the present. <i>Prerequisite: The 233 or equivalent.</i>	3:3:0
534	Message Analysis Analysis, interpretation, and design of individual and group messages particularly in business settings.	3:3:0

5341	Seminar in Oral Interpretation	3:3:0
	History and contributions of oral interpretation to the field of communication, literary analysis, rhetorical principles and performance skills.	
5346	Dramatic Criticism	3:3:0
	Theories and criteria of dramatics from Classical Greek period to the present.	
535	Individual Study	3:A:0
	Independent study of special problems in disorders of communication. May be repeated once for credit.	
536	Communication Theory	3:3:0
	Study of human communication processes to include psychological, sociological, linguistic and speech communication models and theories.	
5350	Individual Study	3:A:0
	Independent study of special problems in speech under faculty guidance.	
5350	Theater Individual Study	3:A:0
	Independent study of special problems in theater under faculty guidance.	
669A-669B	Thesis	6:A:0
	<i>Prerequisite: Approval of graduate advisor.</i>	

Below is the approved list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor. Course descriptions may be found in the Bulletin of Lamar University.

- 430G Creative Communication (Theater)
- 430G Problems and Projects in Speech (Speech)
- 4301G Advanced Speech Pathology (Speech)
- 4302G Advanced Audiology (Speech)
- 4303G Clinical Practicum (Speech)
- 4304G Intermediate Manual Communication (Speech)
- 431G Problems and Projects in Theater (Theater)
- 431G Laws and Ethics of Mass Media (Communication)
- 432G History and Principles of American Journalism (Communication)
- 4323G Nonverbal Communication (Speech)
- 434G Advanced Stagecraft (Theater)
- 434G Persuasion (Speech)
- 4341G Advanced Interviewing (Speech)
- 436G History of Theater (Theater)
- 437G Directing Secondary School Theater and Speech Activities (Theater)
- 438G Broadcast News (Communication)
- 439G Seminar in Fine Arts (Humanities)
- 439G Rhetoric and Public Address (Speech)
- 4311G Theory and Practice of Scenery and Lighting Design (Theater)
- 4312G Costume Design and Construction (Theater)
- 4371G Advanced Oral Interpretation (Theater)
- 4381G Rhetoric of Social Movements (Speech)
- 4383G Print Advertising (Communication)
- 4391G Advanced Television Production (Communication)

Department of Music

The Department of Music offers the following graduate degrees: The Master of Music in Performance and the Master of Music Education. These degrees are designed to help performers and music educators 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 that 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.

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 twelve hours in the Applied Major, six in Music Literature, Six in Music Theory, and six in Music Education. In addition, a public recital and research paper or lecture recital are required. Voice major 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 eighteen in Music Education, 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 Music Education courses.

All degree candidates must take MED 532 (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.

Graduate Faculty

Professor Joseph B. Carlucci
Woodwinds, Departmental Director of
Graduate Studies
Associate Professor J. N. Collier
Musicology
Associate Professor Paul W. Holmes
Theory and composition

Associate Professor John R. LeBlanc
Voice, choral
Professor George L. Parks
Voice, music education
Associate Professor James M. Simmons
Woodwinds, Music Education
Associate Professor Joseph Truncale
Voice, opera

Applied Music (AM)

- 521, 522, 523, 524, 525 **Graduate Applied Music** 2:2:0
For music education majors only. Graduate applied music in any instrument category, including composition. No more than eight hours may be applied to the music education degree toward graduation.
- 541, 542, 543, 544, 545 **Graduate Applied Music** 4:4:0
Graduate applied music in any instrument category, including composition. No more than 12 hours may be applied to the Master of Music degree.

Music Education (MEd)

- 520 **Piano Accompanying** 2:2:0
A study of the techniques of accompanying, with practical experience.
- 521 **Seminar in Music Education** 2:15:20
Research dealing with special problems related to field work for professional music teachers. Course may be repeated for credit. Class: 15 clock hours. Laboratory: 20 clock hours.
- 530 **Advanced Instrumental Organization and Administration** 3:3:0
Organization and administration of public school bands and orchestras, with emphasis on rehearsal methods and techniques, library systems, program building, publicity procedures, contest preparation, techniques of class instruction and budget.
- 531 **Advanced Choral Organization and Administration** 3:3:0
Philosophy, organization and administration of vocal music programs at the public school level; emphasis similar to MEd 530.
- 532 **Seminar in Special Problems** 3:3:0
Research problems of special interest to students whose major emphasis is in the graduate field of music. Research paper required.
- 533 **Basic Concepts in Music Education** 3:3:0
The historical, philosophical and psychological bases of music education.

534	Supervision of Music	3:3:0
	Supervision of public school music programs, with emphasis on leadership, instruction, public relations and problems in scheduling and finance.	
535	Advanced Materials and Methods in Elementary Music	3:3:0
	Study of current trends, methods and materials in teaching elementary school music, with emphasis on individual study and presentations.	
536	Advanced Choral Conducting	3:3:0
	Development of technical facility in conducting choral music, with emphasis on complex interpretive elements and problems of the choral conductor.	
537	Advanced Instrumental Conducting	3:3:0
	Advanced interpretive problems and rehearsal techniques related to the conducting of various types of band and orchestral music.	
538	Advanced Instrumental Methods.	3:3:0
	The principles and techniques of teaching instrumental music.	
539	Advanced Vocal Methods	3:3:0
	The principles and techniques of teaching vocal music.	

Music Literature (MLt)

532	Instrumental Literature	3:3:0
	Survey of music for large instrumental ensembles, chamber music and music for solo instruments. Emphasis on the concerto and symphony, the string quartet and sonata literature, with special attention to the needs and interests of students enrolled.	
533	Keyboard Literature	3:3:0
	Survey of keyboard literature from the pre-piano period to the present, including study of the piano sonata and other characteristic forms. Emphasis on performing, listening and analysis.	
534	Choral Literature	3:3:0
	The literature, performance practices and history of choral music, including a study of representative works from various countries.	
535	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.	
536	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.	
537	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.	
538	Twentieth Century Music	3:3:0
	A survey of major composers and schools of composition from Debussy to the present.	

Music Theory (MTy)

532	Advanced Band Arranging	3:3:0
	Advanced techniques in arranging music for various types of bands, and study of models by masters of band arranging.	
533	Advanced Counterpoint	3:3:0
	Application, through analysis and creative writing, of contrapuntal techniques in larger forms such as canon and fugue.	
534	Advanced Orchestration	3:3:0
	Techniques of scoring for various types of orchestras, and study of models by masters of orchestration.	
535	Twentieth Century Harmony	3:3:0
	The analysis and writing of music based on twentieth century harmonic techniques and devices.	
536	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.	
537	Analytical Techniques	3:3:0
	Traditional and contemporary approaches to the visual and aural analyses of music from all periods.	
538	Advanced Choral Arranging	3:3:0
	Advanced techniques in arranging music for various vocal combinations.	
539	Jazz Arranging	3:3:0
	Techniques in arranging music for various jazz combinations.	

Music (Mus)

669A-669B Thesis

Prerequisite: Approval of graduate advisor.

6:A:0

College of Health and Behavioral Sciences

Department of Psychology

The Department of Psychology offers a program of study leading to the Master of Science degree in Psychology. It is designed to prepare professional personnel for employment in industry or in the area of community mental health. 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 bachelors degree in psychology (24 semester hours) including courses in statistics and experimental psychology. 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 GRE verbal score of 400.

Degree Requirements

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

1. Forty-two semester hours of course work in psychology which must include twelve semester hours in Psychology 530, 531, 532, and 5323. For the Community Psychology Program, an additional 12 semester hours in Psychology 5310, 5311, 5312 and 5313 is required. In the Industrial Psychology Program, an additional eleven semester hours is required, including Psychology 5320, 5321, 5322 and two semester hours in Psychology 512.
2. Satisfactorily pass candidacy examinations as devised by the Psychology Department Graduate Faculty. A student may petition to be administered the candidacy (qualifying) examination during the semester in which the course work listed in #1 above is to be completed provided the student is in good academic standing. Dates to sit for the examination will be announced each semester. A student must have satisfactorily passed candidacy examinations prior to enrolling in Psychology 5330 or 669A.
3. Six-seven additional semester hours of 400G and/or 500 level courses in an approved field of study.
4. Six semester hours in Psychology 5330 and 5331.
5. Thesis: Submission of an acceptable thesis and satisfactory performance on a final written comprehensive and/or oral examination and a minimum of six semester hours in Psychology 669.

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 an exempt agency as defined by the *Psychologists' Certification and Licensing Act*. Students in training are expected to be aware of and abide by the *Psychologists' Certification and 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 head 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

Associate Professor Ann M. Die
Individual and group psychotherapy,
intellectual/personality assessment

Assistant Professor Raye Lynne Dippel
Clinical/community psychology,
developmental psychology

Associate Professor James K. Esser
Social, industrial-organization psychology,
leadership

Assistant Professor Joanne S. Lindoerfer
Clinical psychology, community
psychology

Associate Professor Richard G. Marriott
Physiological psychology, learning,
psychopharmacology

Associate Professor James L. Walker, Jr.
Psychological measurement, statistics,
instrumentation and methodology

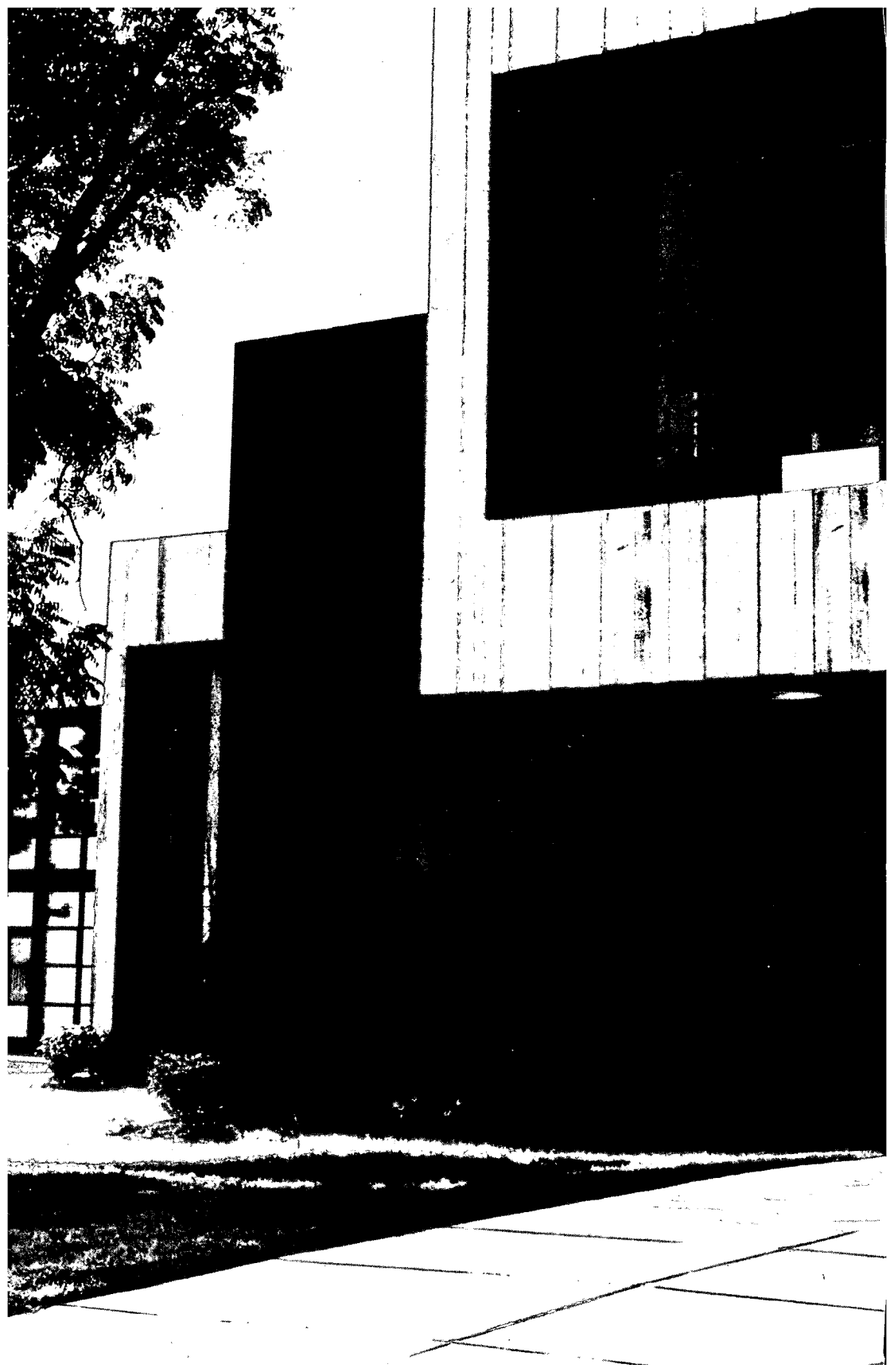
Psychology Courses

- 510 **Clinic Practice** 1:A:0
Prepracticum experience.
Prerequisite: Regular admission to the program and consent of the instructor.
- 512 **Research Practicum: Industrial-Organizational Psychology** 1:A:0
Individualized laboratory or field research activities in industrial-organizational psychology. Assignments are designed to supplement the more formal course work by a variety of pre-professional activities such as assisting in research, teaching and working on field projects under staff supervision. Required of all industrial-organizational graduate students prior to eligibility for Psy 5330 with a maximum credit of 3 semester hours allowed.
- 530 **Advanced General Psychology I** 3:3:0
A comprehensive overview of the history of psychology, systems of psychological thought, and the areas of physiological psychology, sensation and perception, learning and cognition. Emphasis will be placed on both background material and current research. May be taken out of sequence.
Prerequisite: Consent of instructor.
- 531 **Advanced General Psychology II** 3:3:0
A comprehensive overview of the following areas of psychology: personality, motivation, developmental, social and abnormal. Emphasis will be placed on both background material and current research. May be taken out of sequence.
Prerequisite: Consent of instructor.
- 532 **Experimental Design** 3:3:0
A study of the research procedures and techniques commonly used by the applied and theoretical psychologist in the design, execution, control and evaluation of experiments.
Prerequisite: Consent of instructor.
- 533 **Individual Study** 3:A:0
Independent study of special problems in industry or in the community. May be repeated for credit.
Prerequisite: Consent of instructor.
- 534 **Special Topics in Psychology** 3:A:0
Topics in developmental, physiological, social, differential, experimental, quantitative, cognitive or clinical psychology. Includes library and/or laboratory work and conferences with a staff 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.
- 535 **Seminar in Psychology** 3:3:0
An intensive study of selected areas of psychological thought and/or research. Emphasis will be on locating and evaluating literature in a selected area of psychology. Description of course content will appear in the schedule of classes. May be repeated for credit when topic varies.
Prerequisite: 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: Acceptance to psychology graduate program and consent of the instructor.

- 5311 Community Psychology: Introduction to Psychotherapy** 3:3:0
 Psychotherapy skills are introduced through didactic, demonstration and experiential learning situations. Emphasis is placed upon each student developing greater self awareness while being exposed to psychotherapeutic techniques by the instructor.
Prerequisite: Consent of instructor.
- 5312 Advanced Psychological Assessment** 3:3:0
 An introduction to the broad area of personality assessment including DSM III diagnostic classificatins. Practicum in administration, scoring, interpretations, and formal psychological report writing with the MMPI, Rorschach, TAT, and other objective and projective assessment devices.
Prerequisite: Psy 5310
- 5313 Community Psychology: Advanced Psychotherapy** 3:3:0
 The emphasis shifts toward the student taking on responsibility as a therapist. Each student will practice psychotherapy techniques under the supervision of a faculty member.
Prerequisite: Psy 5311.
- 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
 A critical examination of the social and organizational factors in the work situation. Primary emphasis on human relations, leadership and organizational influences on behavior.
Prerequisite: Consent of instructor.
- 5322 Advanced Industrial Psychology II** 3:3:0
 Psychological principles and techniques applied to job analysis, selection and placement of workers, training and organizational efficiency.
Prerequisite: Psy 5320.
- 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 532.
- 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. Under unusual circumstances, this course may be waived by the graduate faculty of the Psychology Department for students in the Industrial Program if they elect three additional hours from the approved program courses.
Prerequisite: Admission to candidacy.
- 5331 Practicum II** 3:A:0
 Supervised work in an area of particular interest to the student. The practicum includes both a close relationship with a faculty member and a member of the cooperating agency/organization. Under unusual circumstances, this course may be waived by the graduate faculty of the Psychology Department for students in the Industrial Psychology program if they elect three additional hours from the approved program courses.
Prerequisite: Psy 5330.
- 5332 Practicum III** 3:A:0
 Supervised internship in the area of particular interest to the student upon approval of the graduate advisor. The practicum includes training community mental health intervention skills and diagnostic abilities.
Prerequisite: Psy 5331 and consent of instructor.
- 669A-669B Thesis** 6:A:0
Prerequisite: Admission to Candidacy.

Below is the list of 400G level courses which may be taken with augmented requirements for graduate credit, subject to approval by the graduate advisor and instructor. Course descriptions may be found in the Bulletin of Lamar University.

- 431G Sensation and Perception
 434G An Introduction to Group Psychotherapy
 435G Leadership and Group Dynamics
 436G Learning
 438G Physiological Psychology
 439G Contemporary Problems in Psychology



Directory of Personnel 1985-86

Board of Regents

Lloyd Hayes, Chairman	Port Arthur
Merlin Breaux, Vice Chairman	Sour Lake
Thomas M. Maes, II Secretary	Beaumont
Otho Plummer, Chairman Emeritus.....	Beaumont
George Dishman.....	Beaumont
W. Donham Crawford.....	Beaumont
B. A. (Mark) Steinhagen	Beaumont
Joe Deshotel	Beaumont
H. D. Pate	Bridge City

Administration

Kemble, C. Robert, <i>Ph.D.</i> , Chancellor
Baxley, Oscar K., <i>M.B.A.</i> , Chancellor for Finance
McLaughlin, George E., <i>Ed.D.</i> , Vice Chancellor for Administration, Planning and Academic Coordination
Leonard, W. S., <i>M.S.</i> , Assistant Chancellor for Development; Vice President for University Relations
Geddes, David D., <i>Ph.D.</i> , Provost
Johnson, Andrew J., <i>Ph.D.</i> , Vice President for Administration, Personnel and Student Service
Nylin, William, <i>Ph.D.</i> , Vice President for Finance

Council of Deans

Bell, Myrtle L., <i>Ed.D.</i> , Dean, College of Health and Behavioral Sciences
Brentlinger, W. Brock, <i>Ph.D.</i> , Dean, College of Fine Arts and Communication
Idoux, John P., <i>Ph.D.</i> , Dean, College of Arts and Sciences
Johnston, Maxine, <i>M.L.S.</i> , Director of Library Services
McCabe, Dennis P., <i>Ph.D.</i> , Dean, College of Educator
Monroe, W. Sam, <i>LL.D.</i> , Dean, Lamar University at Port Arthur
Rode, Elmer G., Jr., <i>M.Ed.</i> , Dean of Admissions and Registrar
Ryan, John A., <i>Ph.D.</i> , Dean, College of Business
Shipper, Kenneth E., <i>Ph.D.</i> , Dean, College of Technical Arts
Turco, Charles P., <i>Ph.D.</i> , Dean, College of Graduate Studies and Research
Welch, Joe Ben, <i>Ed.D.</i> , Dean, Lamar University at Orange
Wooster, Ralph A., <i>Ph.D.</i> , Dean of Faculties
Young, Fred M., <i>Ph.D.</i> , Dean, College of Engineering

The Graduate Council

Turco, Charles P., Dean of the College of Graduate Studies and Research
Johnson, John P., Associate Professor of Communication and Head, Department of Communication
Marriott, Richard G., Associate Professor of Psychology and Head, Department of Psychology
Ortego, J. Dale., Associate Professor of Chemistry
Swerdlow, Robert A., Associate Professor of Marketing and Graduate Coordinator, College of Business
White, William F., Professor of Education
Zaloom, Victor, Professor of Industrial Engineering and Head, Department of Industrial Engineering
Gwin, Howell H., Jr. Professor of History and Director of Graduate Studies

The Graduate Faculty 1985-86

The following list reflects the status of the graduate faculty of Lamar University as of August, 1983. 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.

- Achilles, Robert F.** 1963, *Regents' Professor of Speech*
B.S., McPherson College; M.A., Ph.D., Wichita State University
- Akers, Hugh A.** 1977, *Associate Professor of Chemistry*
B.S., University of California at Riverside; Ph.D., University of California at Berkley
- Allen, Charles L.** 1979, *Associate Professor of Economics*
B.A., East Texas State University; M.A., Ph.D., University of Arkansas
- Anderson, Adrian N.** 1967, *Professor of History and Head, Department of History*
B.S., M.A., Ph.D., Texas Tech University
B.S., Georgia State College for Women; M.Ed., Trinity University
- Baj, Joseph A. II** 1964, *Associate Professor of Mathematics*
B.A., Kent State University; M.A., The University of Texas
- Baker, Christopher** 1976, *Associate Professor of English and Foreign Languages*
B.A., St. Lawrence University, M.A., Ph.D., University of North Carolina
- Baker, Mary Alice** 1969, *Associate Professor of Communication*
B.S., M.A., University of Oklahoma, Ph.D., Purdue University
- Barnes, Robert J.** 1960, *Regents' Professor of English*
B.A., M.A., The University of Kansas; Ph.D., The University of Texas
- Beale, Luther A.** 1955, *Professor of Civil Engineering and Head, Department of Civil Engineering*
B.S., M.S., Georgia Institute of Technology; Ph.D., The University of Texas; Registered Professional Engineer
- Bean, Wendell C.** 1968, *Professor of Electrical and Nuclear Engineering*
B.A., B.S., Lamar University; M.S., Ph.D., University of Pittsburgh; Registered Professional Engineer
- Bechler, David L.** 1981, *Assistant Professor of Biology*
B.A., Indiana University; M.S., Northeast Louisiana University; Ph.D., Saint Louis University
- Bell, Alice C.** 1971, *Professor of Health, Physical Education and Dance, Associate Athletic Director, Primary Women's Administrator*
B.S., M.A., Ph.D., Texas Woman's University
- Bennett, Richmond O.** 1957, *Professor of Accounting and Head, Department of Accounting*
B.S., M.S., Texas A&M University; Ph.D., The University of Texas; Certified Public Accountant
- Berzsenyi, George** 1969, *Professor of Mathematics*
B.A., M.S., University of Dallas; M.S., Ph.D., Texas Christian University
- Bost, David L.** 1949, *Professor of Graduate Studies in Education*
B.A., Hardin-Simmons University; M.J., The University of Texas; Ph.D., East Texas State University; Licensed Psychologist
- Brazell, Wayne** 1982, *Assistant Professor, of Curriculum and Instruction*
B.S., M.Ed., University of South Carolina, Ph.D., University of Georgia
- Briggs, Kenneth R.** 1966, *Regents' Professor of Graduate Studies in Education*
B.S., M.Ed., Ed.D., North Texas State University
- Brookner, Ralph G.** 1981, *Associate Professor of Mathematics*
B.A., Rice University; M.A., University of Michigan; Ph.D., Columbia University
- Brown, Otto George** 1962, *Professor of Mechanical Engineering and Head, Department of Mechanical Engineering*
B.S., The University of Oklahoma; M.S., Ph.D., The University of Texas; Registered Professional Engineer
- Bruneau, Odette** 1982, *Assistant Professor of Curriculum and Instruction*
B.S., University of Minnesota, M.A., College of St. Thomas, Ph.D., Texas Women's University

- Brunson, Richard** 1982, *Associate Professor, Management, Marketing and Finance*
B.S., U.S. Military Academy; M.B.A., Babson College; Ph.D., Michigan State University
- Brust, Melvin R.** 1978, *Assistant Professor of Management and Finance*
B.S.E.E., M.S.E.E., University of Texas; Ph.D., North Texas State University; Registered Professional Engineer
- Burke, Charles M.** 1970, *Professor of Curriculum and Instruction*
B.A., Southeastern Louisiana University; M.Ed., Louisiana State University; Ed.D., The University of Southern Mississippi
- Cameron, Margaret D.** 1956, *Regents' Professor of Chemistry*
B.A., Texas Woman's University; M.S., University of Houston; Ph.D., Tulane University
- Campbell, Don** 1984, *Associate Professor of Communication*
B.A., Brigham Young University, M.S., Gauldet College, M.A., California State University, Ed.D., Brigham Young University
- Carley, Wayne W.** 1983, *Assistant Professor of Biology*
B.S., M.A., Ph.D., University of California
- Carlucci, Joseph B.** 1971, *Professor of Music*
B.M., M.M., Yale University; D.M.A., Eastman School of Music, University of Rochester
- Carroll, John M.** 1972, *Associate Professor of History*
A.B., Brown University; M.A., Providence College; Ph.D., University of Kentucky
- Carruth, Carl** 1966, *Assistant Professor of Industrial Engineering*
B.S., Lamar University; M.S., University of Houston; Ph.D., The University of Texas at Arlington; Registered Professional Engineer
- Cass, Michael A.** 1982, *Assistant Professor of Curriculum and Instruction*
B.A., University of Vermont; M.A., Ed.D., University of Alabama
- Chen, Daniel H.** 1982, *Assistant Professor in the Department of Chemical Engineering*
B.S. National Ching-Kung Univ., M.S. National Taiwan University, Ph.D. Oklahoma State University.
- Chern, Shui-Sheng,** 1983, *Assistant Professor Of Mechanical Engineering*
B.S., M.S., National Tsing-Hug University, Ph.D., University of Minnesota
- Cherry, Richard T.** 1966, *Regents' Professor of Finance and Head, Department of Management, Marketing, and Finance*
B.A., Texas A&M University; M.A., Ph.D., The University of Texas
- Choi, Jai-Young** 1982, *Assistant Professor of Economics*
B.A., Yonsei University, M.A., University of Kansas, Ph.D., University of Oklahoma
- Chu, Hsing Wei** 1979, *Assistant Professor in the Department of Industrial Engineering.*
B.D. Tunghai Univ., M.S. Asian Institute of Technology, Ph.D. University of Texas.
- Collier, J. N.** 1955, *Associate Professor of Music*
B.M., University of Houston; M.M., Southern Methodist University
- Coody, Betty Fay** *Regents' Professor of Graduate Studies in Education*
B.A., East Texas State University; M.Ed., Ph.D., The University of Texas
- Cooke, James L.** 1956, *Regents' Professor of Electrical Engineering*
B.S., Texas Tech University; M.S., The University of Texas; Ph.D., Northwestern University; Registered Professional Engineer
- Cooper, Mark J.,** 1984, *Assistant Professor of Curriculum and Instruction*
B.S.E., M.S.E., Henderson State University, Ph.D., Georgia State University
- Corrigan, Daniel R.** 1984, *Assistant Professor of Marketing*
B.B.A., University of Texas at Arlington, M.B.A., East Texas State University, Ph.D., University of Arkansas
- Cowan, Russell W.** 1966, *Professor of Mathematics*
A.B., M.A., Ph.D., University of California at Berkeley
- Crim, Sterling C.** 1964, *Professor of Mathematics*
B.A., Lamar University; B.S., Baylor University; M.Ed., North Texas State University; M.A., George Peabody College for Teachers; Ph.D., The University of Texas

- Crowder, Vernon Roy** 1967, *Professor of Health, Physical Education and Dance*
B.S., Lamar University; M.S., Ph.D., Louisiana State University
- Crum, Floyd M.** 1955, *Regents' Professor of Electrical Engineering*
B.S., M.S., Louisiana State University; Registered Professional Engineer
- Daigrepoint, Lloyd M.** 1981, *Assistant Professor of English*
B.A., M.A., Ph.D., Louisiana State University
- Daniali, Saeed** 1981, *Assistant Professor in the Department of Civil Engineering.*
B.S. Tehran Polytechnique, M.S. School of Engineering of Strasbourg, Ph.D. University of Lillo.
- Darsey, Nancy S.** 1955, *Professor of Office Administration and Head, Department of Administrative Services*
B.B.A., M.B.A., Texas Tech University; Ph.D., Louisiana State University
- Davidson, Jane S.** 1970, *Professor of Home Economics*
B.S., Texas Woman's University; M.S., Sam Houston State University; Ph.D., Texas Woman's University
- Die, Ann M.** 1977, *Associate Professor of Psychology*
B.S., Lamar University; M.Ed., University of Houston; Ph.D., Texas A&M University
- Dippel, Raye Lynne**, 1984, *Assistant Professor of Psychology*
B.S., East Texas State University; Ph.D., Texas Tech University
- Dorris, Kenneth L.** 1965, *Associate Professor of Chemistry*
B.S., Ph.D., The University of Texas
- Drapeau, Richard A.** 1983, *Assistant Professor of Business Statistic*
B.S., Arizona State University, M.B.A., Lamar University, Ph.D., Texas A & M University
- DuBose, Elbert T., Jr.** 1974, *Assistant Professor of Political Science*
B.A., Southwest Texas State University; M.A., Texas Tech University; Ph.D., The University of Oklahoma
- Emmons, Winfred S., Jr.** 1955, *Professor of English*
B.A., Louisiana Tech University; M.A., The University of Virginia; Ph.D., Louisiana State University
- Esser, James K.** 1976, *Associate Professor of Psychology*
B.S., University of Iowa; Ph.D., Indiana University
- Fritze, Ronald H.** 1984, *Assistant Professor of History*
B.A., Concordia College, M.A., M.L.S., Louisiana State University, Ph.D. University of Cambridge
- Gates, David G.** 1963, *Professor of Industrial Engineering*
B.S., M.S., University of Arkansas; Ph.D., Oklahoma State University; Registered Professional Engineer
- Georgas, Marilyn D.** 1962, *Professor of English*
B.A., Sam Houston State University; M.A., Lamar University; Ph.D., The University of Texas
- Godkin, Roy Lynn** 1981, *Assistant Professor of Management*
A.B., Bethany Nazarene College; M.B.E., Nazarene Theological Seminary; M.A., Sangamon State University; Ph.D., North Texas State University
- Griffin, Vernon H.** 1970, *Professor of Graduate Studies in Education*
B.S., M.Ed., Sam Houston State University; Ed.D., University of Houston
- Grubert, John P.** 1982, *Associate Professor in the Department of Civil Engineering*
B.S., M.Phil., London University; Ph.D., City University of London
- Gwin, Howell H., Jr.** 1962, *Professor of History and Director of Graduate Studies*
B.A., M.A., Ph.D., Mississippi State University
- Haiduk, Michael W.** 1983, *Assistant Professor of Biology*
B.S., M.S., Texas A & M University, Ph.D., Texas Tech University
- Hansen, Keith C.** 1967, *Professor of Chemistry and Head, Department of Chemistry*
B.S., Lamar University; Ph.D., Tulane University
- Hargrove, W. Rilchard**, 1964, *Professor of Curriculum and Instruction*
B.S., M. Ed., North Texas State University, Ed. D., Geroge Peabody College for Teachers
- Harrel, Richard C.** 1966, *Professor of Biology*
B.S., East Central State College; M.S.Ed., The University of Georgia; Ph.D., Oklahoma State University

- Harrigan, W. Patrick, III** 1969, *Associate Professor of Speech*
B.S., Loyola University; M.F.A., Tulane University; Ph.D., Louisiana State University
- Harvill, John B.**, 1984, *Associate Professor of Computer Science*
B.A., M.A., North Texas State University, Ph.D., Southern Methodist University
- Haven, Sandra L.** 1973, *Associate Professor of Graduate Studies in Education*
B.S., Lamar University; M.A., Central Michigan University; Ed.D., University of Houston
- Hawkins, Charles F.** 1966, *Professor of Economics, Regents' Professor*
B.A., Lamar University; M.A., Ph.D., Louisiana State University
- Ho, Tho-Ching** 1982, *Associate Professor in the Department of Chemical Engineering*
B.S., National Taiwan University, M.S., Ph.D. Kansas State University.
- Holland, DeWitte T.** 1971, *Professor of Speech*
A.B., Howard College; B.S., U.S. Merchant Marine Academy; B.D., Southern Baptist Theological Seminary; M.A., University of Alabama; Ph.D., Northwestern University
- Holm, Belle Mead** 1963, *Professor of Health, Physical Education and Dance, Assistant Dean, College of Education. Division Head, Health, Physical Education and Dance.*
B.S., M.S., George Peabody College for Teachers; Ph.D., Texas Woman's University
- Holmes, Paul W.** 1953, *Associate Professor of Music*
B.M., Hardin-Simmons University; M.M., The University of Texas
- Holt, V. Raye** 1975, *Professor of Health, Physical Education and Dance; Coordinator of Health, Physical Education and Dance Graduate Programs*
B.S., Georgia State College for Women; M.S., Baylor University; Ed.D., University of Tennessee
- Hopper, Jack R.** 1969, *Professor of Chemical Engineering and Head, Department of Chemical 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, *Assistant Professor of Biology*
B.S., Lamar University, M.P.H., University of Texas School of Public Health; Registered Medical Technologist, (A.S.C.P.)
- Idoux, John P.** 1983, *Professor of Chemistry and Dean, College of Arts and Sciences*
B.A., University of St. Thomas, M.S., Ph.D., Texas A & M University
- Isaac, Paul E.** 1960, *Regents' Professor of History*
B.A., Pepperdine College; M.A., Ph.D., The University of Texas
- James, S. Walker** 1965, *Professor of Speech and Director of Theater*
B.A., M.A., Baylor University; M.F.A., Case Western Reserve University; Ph.D., University of Denver
- Johnson, Betty S.** 1979, *Associate Professor of Office Administration*
B.S.E., M.S.E., Arkansas State University; Ed.D., University of Arkansas
- Johnson, John P.** 1977, *Associate Professor of Communication, and Head, Department of Communication*
B.A., M.S., Florida State University; Ph.D., Kent State University
- Jolly, Sidney W., Jr.** 1971, *Associate Professor of Health, Physical Education and Dance, Associate Athletic Director for Men's Sports, Head Track Coach*
B.S., Lamar University; M.Ed., Stephen F. Austin State University; Ed.D., North Texas State University
- Jones, Kirkland C.** 1973, *Associate Professor of English*
B.A., University of Washington; M.A., Texas Southern University; Ph.D., University of Wisconsin
- Jones, Richard W.** 1975, *Associate Professor of Accounting*
B.S.C., Texas Christian University; M.A., University of Alabama; Ph.D., University of Arkansas; Certified Public Accountant
- Joshi, Narayan R.**, 1984, *Associate Professor of Mechanical Engineering*
B.S., M.S., Poona University, M.S., Ph.D., Johns Hopkins University
- Karlin, Andrea** 1981, *Assistant Professor of Curriculum and Instruction*
B.A., Hunter College; M.A., Ph.D., University of New Mexico
- Kim, Hi K.** 1968, *Professor of Economics and Head, Department of Economics*
B.B.A., M.B.A., Southern Methodist University; Ph.D., University of Houston

- King, Jess Freeman** 1978, *Assistant Professor of Communication*
B.S., McNeese State College; M.S., Eastern New Mexico University; Ed.D., McNeese State College
- Koehn, Enno**, 1984 *Professor and Head, Department of Civil Engineering*
B.C.E., City University of New York, M.S., Columbia University, Ph.D., Wayne University;
Registered Professional Engineer
- Koh, Hikyoo** 1981, *Assistant Professor of Computer Science.*
B.A. Young-Nam, M.S. University of Hawaii, Ph.D. University of Pittsburgh
- Kohli, Jogendra K.**, 1981, *Assistant Professor of Mathematics*
B.S., Agra University, M.S., Ph.D., ITT, Kunpur
- Laidacker, Michael A.** 1967, *Associate Professor of Mathematics*
B.S., M.S., Lamar University; Ph.D., University of Houston
- Lane, James E.** 1967, *Assistant Professor of Curriculum and Instruction*
B.A., Abilene Christian University; M.Ed., Lamar University Ed.D., North Texas State University
- LeBlanc, John R.** 1971, *Associate Professor of Music*
B.M.Ed., McNeese State University; M.S.M., Southwestern Baptist Theological Seminary; M.M.,
Louisiana State University; Ph.D., University of Southern Mississippi
- Lee, Kwan Rim** 1981, *Assistant Professor of Mathematics.*
B.S., M.S. Seoul National University, Ph.D. Southern Methodist University.
- Li, Ku-Yen** 1978, *Associate Professor of Chemical Engineering*
B.S., M.S., Cheng Kung University; Ph.D., Mississippi State University; Registered Professional
Engineer
- Lindorfer, Joanne** 1980, *Assistant Professor of Psychology*
B.S., Loyola University, Chicago; M.S., Ph.D., University of Texas
- Lobstein, Dennis** 1983, *Assistant Professor of Health, Physical Education, and Dance*
B.A., M.S., Ph.D., Purdue University
- Loewenstein, Gaither** 1983, *Assistant Professor of Political Science, Director of MPA program*
B.S., University of the Pacific, M.U.A., Wichita State University, Ph.D., University of Delaware
- Lowrey, Mildred A.** 1974, *Associate Professor of Health, Physical Education and Dance*
B.S., Howard College; M.S., Alabama College; Ph.D., Florida State University
- Mackey, Howard** 1963, *Professor of History*
B.A., University of Toledo; M.A., Ph.D., Lehigh University
- Malnassy, Phillip G.** 1973, *Associate Professor of Biology*
A.B., Hutner College; Ph.D., Rutgers University
- Mantz, Peter A.** 1983, *Associate Professor of Civil Engineering*
B.Sc., Newcastle University; M.Sc., Southampton University; Ph.D., London University;
Chartered Engineer (U.K.)
- Marriott, Richard G.** 1976, *Associate Professor of Psychology and Head, Department of Psychology*
B.S., Weber State College; M.A., Ph.D., University of New Mexico
- Martinez, Eugene P.** 1959, *Regents' Professor in the Department of Mechanical Engineering*
B.S., Lamar University; M.S., William Marsh Rice University; Ph.D., University of Houston
- Matheson, Alec L.**, 1983, *Assistant Professor of Mathematics*
B.S., University of Washington, Ph.D., University of Illinois
- Matthews, William H., III** 1955, *Regents' Professor of Geology and Head, Department of Geology*
B.A., M.A., Texas Christian University
- McAdams, LeBland** 1967, *Associate Professor of Home Economics*
B.S., Sam Houston State University; M.Ed., University of Houston; Ph.D., Texas Woman's
University
- McCabe, Dennis P.** 1984, *Professor of Graduate Studies in Education and Dean, College of Education*
B.A., M.S., New Mexico Highlands University, Ph.D., University of New Mexico
- McCullough, Charles D.** 1967, *Professor of Marketing*
B.B.A., M.B.A., D.B.A., Texas Tech University

- McGraw, J. Leon, Jr.** 1967, *Professor of Biology*
B.S., Lamar University; M.S., Ph.D., Texas A&M University
- McGuire, Sterling W.** 1956, *Professor of Computer Science*
B.S., M.A., Sam Houston State University; Ph.D., Texas A&M University
- Mei, Harry T.** 1960, *Professor of Mechanical Engineering*
B.S., National Taiwan University; M.S., Ph.D., The University of Texas; Registered Professional Engineer
- Montano, Carl B.** 1981, *Assistant Professor of Economics*
B.S., M.S., University of the Philippines, Ph.D., Michigan State University
- Morgan, William E.** 1972, *Professor of Civil Engineering*
B.S., U.S. Naval Academy; B.S., U.S. Naval Post Graduate School; M.S., University of Alaska; Ph.D., The University of Texas; Registered Professional Engineer
- Moulton, Robert D.** 1974, *Professor of Speech and Director of Speech Pathology*
B.S., M.S., University of Utah; Ph.D., Michigan State University
- Nguyen, Anh-Tri,** 1981, *Assistant Professor of Mechanical Engineering*
B.S., M.S., San Jose State University, Ph.D., Ohio State University
- Norton, L. Wesley** 1959, *Regents' Professor of History*
B.A., Olivet College; M.A., Ph.D., University of Illinois
- Olson, Robert C.** 1962, *Regents' Professor of English*
B.S., Northwestern University; M.A., Ph.D., University of Colorado
- Ortego, James Dale** 1968, *Associate Professor of Chemistry*
B.S., University of Southwestern Louisiana; Ph.D., Louisiana State University
- Pampe, William R.** 1966, *Professor of Geology*
A.B., M.S., University of Illinois; Ph.D., University of Nebraska
- Parigi, Sam F.** 1961, *Regents' Professor of Economics*
B.S., St. Edward's University; M.B.A., Ph.D., The University of Texas
- Parks, George L.** 1947, *Professor of Music and Head, Department of Music*
B.S., Northwestern State College; M.A., Colorado State University; Ed.D., University of Houston
- Partin, Charles A.** 1964, *Professor of Economics*
B.S., Stephen F. Austin State University; M.A., Ph.D., The University of Texas
- Pearson, William M.** 1969, *Professor of Political Science and Head, Department of Political Science*
B.S., Sam Houston State University; M.A., Texas A&M University; Ph.D., Louisiana State University
- Pederson, Olen T.** 1975, *Professor of Communication*
B.S., University of Houston; M.S., East Texas State University; Ph.D., University of Oklahoma
- Peebles, Hugh O., Jr.** 1963, *Associate Professor of Physics*
B.S., The University of Texas; M.S., Ph.D., Oklahoma State University
- Pizzo, Joseph F., Jr.** 1964, *Professor of Physics and Head, Department of Physics*
B.A., The University of Saint Thomas; Ph.D., University of Florida
- Platt, Annette E.** 1963, *Associate Professor of English*
B.A., M.A., University of Texas; Ed.D., McNeese State University
- Poole, George** 1983
B.S.E. Emporia State University, M.S., Colorado State University, Ph.D., Texas Tech University.
- Price, Donald I.** 1983, *Assistant Professor of Economics*
B.A., Hendrix College, M.A., Ph.D., University of Arkansas
- Price, R. Victoria** 1972, *Associate Professor of Modern Languages*
B.A., Tift College; M.A., M.Ed., Lamar University; M.A., Ph.D., Rice University
- Ramsey, Jed J.** 1965, *Professor of Biology*
B.S., Kansas State University of Agriculture and Applied Science; M.S., Kansas State Teachers College; Ph.D., Oklahoma State University
- Read, David R.** 1965, *Professor of Computer Science*
B.S., Lamar University; M.S., North Texas State University; Ph.D., University of Houston

- Rennebohm, Fern H.** 1982, *Department Head and Professor, Home Economics*
B.S., M.S., Ph.D., University of Wisconsin
- Rigney, Carl J.** 1957, *Professor of Physics*
B.S., University of Louisville; M.S., Ph.D., Northwestern University
- Rogers, Bruce G.** 1961, *Professor of Civil Engineering*
B.S., University of Houston; M.S., Ph.D., The University of Illinois; Registered Professional Engineer
- Roth, Lane.** 1978, *Associate Professor of Communication*
B.A., New York University, M.A., Ph.D., Florida State University
- Rule, Henry B.** 1960, *Regents' Professor of English*
B.A., The University of Texas; M.A., Columbia University; Ph.D., University of Colorado
- Runnels, William C.** 1965, *Assistant Professor of Biology*
B.S., M.S., Texas A&I University; Ph.D., Texas A&M University
- Ryan, John A.** 1975, *Professor of Marketing and Dean, College of Business*
B.S., University of Southern California; M.B.A., Ph.D., The University of Texas
- Saet, Yuly A.**, 1982, *Assistant Professor of Mathematics*
B.S., M.S., Ph.D., Leningrad State University
- Sanders, L. Thomas** 1974, *Associate Professor of Political Science*
B.A., Louisiana State University; M.A., Ph.D., University of Michigan
- Satterfield, R. Beeler** 1963, *Professor of History*
B.A., M.A., Vanderbilt University; Ph.D., Johns Hopkins University
- Scott, Dana K.** 1983, *Assistant Professor of Home Economics*
B.S., University of Tennessee, M.S., Ph.D., University of Georgia
- Seelbach, Wayne C.** 1976, *Associate Professor of Sociology and Gerontology, Head, Department of Sociology, Social Work and Criminal Justice*
B.A., Lamar University; M.A., Stephen F. Austin State University; Ph.D., The Pennsylvania State University
- Self, E. Lee** 1959, *Professor of Curriculum and Instruction and Director of Student Teaching*
B.S., M.Ed., Northwestern State University of Louisiana; Ph.D., Louisiana State University
- Simmons, James M.** 1970, *Associate Professor of Music and Director of Bands*
B.S., Memphis State University, M.M., University of Minnesota, Ed.D., University of Montana
- Snyder, Phillip B.** 1972, *Professor of Curriculum and Instruction*
B.S., Trinity University; M.Ed., Ph.D., The University of Texas
- Sontag, Monty L.** 1972, *Professor of Curriculum and Instruction*
B.A., University of Denver; M.A., Ed.D., Columbia University
- Spradley, Larry W.** 1972, *Professor of Business Statistics*
B.A., Stephen F. Austin State University; M.Th., Southern Methodist University; M.S., Lamar University; Ph.D., Texas A&M University
- Stanley, William H.** 1973, *Associate Professor of Graduate Studies in Education*
B.S., North Texas State University; M.Ed., Hardin-Simmons University; Ed.D., North Texas State University
- Stark, Jeremiah M.** 1956, *Professor of Mathematics*
B.S., United States Coast Guard Academy; B.S., North Texas State University; S.M., Ph.D., Massachusetts Institute of Technology
- Stefanich, Greg,** 1983, *Professor of Education and Head, Department of Curriculum and Instruction*
B.S., M.S., University of Minnesota, Ed.D., University of Montana
- Stidham, Ronald** 1970, *Associate Professor of Political Science*
B.S., M.A., East Tennessee State University; Ph.D., University of Houston
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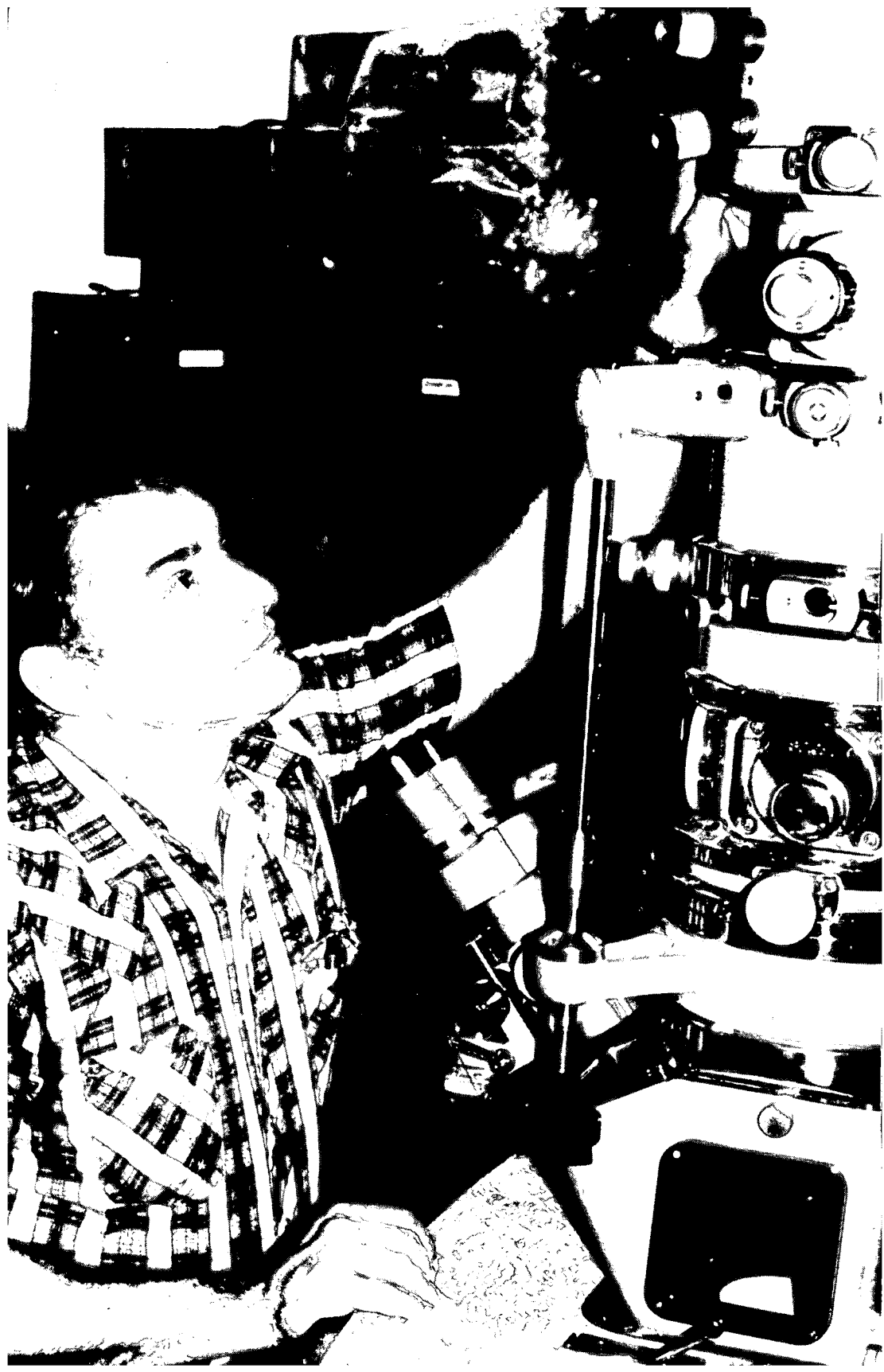
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