
College of Arts and Sciences

Departments: Biology, Chemistry and Physics, Computer Science, English and Modern Languages, Earth and Space Sciences, History, Mathematics, Nursing, Psychology, Political Science, and Sociology, Social Work and Criminal Justice.

Brenda S. Nichols, Dean
Cruse Melvin, Associate Dean
Joe Nordgren, Associate Dean

203 Parker Building
Phone 880-8508

The College has three principal missions:

- to provide an excellent learning environment for all undergraduates to develop and refine knowledge and skills essential in cultivating the individual's ability to critically think, communicate, utilize information technology and participate in a global society;
- to provide a relevant education for undergraduate and graduate majors in a diverse range of arts and sciences disciplines; and
- to develop and refine knowledge and understanding through community outreach, service, research and creative activities.

Organization and Function

The College of Arts and Sciences provides most of the academic components fundamental to a traditional liberal arts college and contains humanities, social sciences and the natural sciences. Programs in the humanities include English, history, philosophy and modern languages with graduate degrees in both English and history. Programs in the social sciences include anthropology, criminology, political science, psychology and sociology with graduate degrees in public administration, applied criminal justice and community/counseling or industrial/organizational psychology. Programs in the natural sciences include nursing plus the traditional sciences of biology, chemistry, computer science, forensic chemistry, geology, space science, physics and mathematics with graduate programs in biology, chemistry, computer science and nursing.

The College also houses many successful programs that cross several disciplines. Environmental science is one example in addition to the many pre-professional programs. Pre-professional programs prepare students for a professional school to launch careers in fields such as law, medicine, dentistry, pharmacy, physical therapy, occupational therapy, optometry and veterinary medicine. The College also has two interdisciplinary degrees designed for adult learners (B.A.A.S.).

Research is a fundamental component of the mission of the College of Arts and Sciences. Faculty members in the College are actively engaged in research related to their respective disciplines. In addition, the College maintains several centers and laboratories that are devoted almost exclusively to research activities. These include the Space Exploration Center, the Center for Public Policy Studies, the Environmental Sciences Laboratory, the Center for Justice Research and Education and the Center for Philosophical Studies.

The Liberal Arts and Sciences

Like other areas of study, the disciplines represented by the arts and sciences prepare a student for advanced study and research; for a career in business, industry, government service or teaching; or for study in a professional field. In addition, however, the very nature of the arts and sciences disciplines not only trains the mind and sharpens the intellect but also provides an experience designed to encourage life-long learning. It

is a “liberating” experience that enables one to acquire the skills and knowledge to think critically, examine values and principles, broaden perspectives and to understand the individual and the relationships among the individual, our natural environment and our society. Thus, specialization in one or more of the arts and sciences disciplines provides the opportunity for this experience and the prelude to a career.

Degrees Offered

Associate of Applied Science – Nursing

Bachelor of Applied Arts and Sciences

Bachelor of Arts with majors in the following fields:

Chemistry	Mathematics
Criminal Justice	Political Science
English	Psychology
French	Sociology
History	Spanish

Bachelor of Science with majors in the following fields:

Biology	Geology
Biochemistry	Mathematics
Chemistry	Medical Technology
Computer Science	Nursing
Criminal Justice	Physics
Earth Science	Political Science
Environmental Science	Psychology
Forensic Chemistry	Sociology

Bachelor of Social Work

Minors are available in anthropology, biology, chemistry, criminal justice, earth science, English, French, geology, history, philosophy, physics, political science, psychology, social work, sociology, space science, Spanish and writing.

Graduate programs are offered in biology, chemistry, English, history, nursing, psychology, public administration and applied criminology. The Department of Geology, the Physics Program and the Sociology Program offer graduate courses in support of other advanced degree programs. Further information may be obtained from the Graduate Catalog or by contacting the appropriate academic department.

Minimum Standards for Undergraduate Majors in the College of Arts and Sciences

A student enrolled as a major in the College of Arts and Sciences must fulfill all University degree requirements, including those for general education, as well as the particular requirements set forth by the department for an area of specialization. In addition, majors in the College must:

1. Complete the Freshman English composition requirement with no less than a grade of “C.”
2. Complete all department courses required in their major with at least a grade of “C.”

Students are expected to make acceptable progress toward their degree objectives and are expected to work closely and carefully with their academic advisor.

Students majoring in one of the programs in the College of Arts and Sciences who accumulate a grade point deficiency of 25 or more grade points by the beginning of a Fall or Spring semester may be suspended for that semester. Students returning from an academic suspension must reduce their grade point deficiency every semester of enrollment until the deficiency is eliminated. Failure to reduce the deficiency in any one semester may result in a second suspension of two long semesters. A third suspension may result in exclusion as a major in the College of Arts and Sciences.

Students suspended from Fall and/or Spring semesters may attend a Summer session. If the grade point deficiency is less than 25 at the close of the Summer session, the student may enroll for the following Fall semester but may be charged with a suspension.

Upon recommendation of the Department Chair and approval of the Dean of the College, exceptions to the above policy will be considered for:

1. A student who compiles exactly a 2.0 GPA after returning from a suspension.
2. A student in good standing (2.0 or greater GPA) who accumulates a grade point deficiency of 25 or more grade points in one semester.
3. A student in college for the first time at the end of the first semester of attendance.

Minimum Standards for Undergraduate Minors in the College of Arts and Sciences

1. Complete all requirements of a major degree plan.
2. Complete all course requirements in their minor with at least a grade of “C.”

Bachelor of Applied Arts and Sciences

Academic Director: Tamara Trout

106 Parker, Phone 880-8534

The Bachelor of Applied Arts and Sciences program is most appealing to students who have earned academic credit hours and are seeking a flexible degree plan to complete their bachelor's degree. In addition, students with technical credits and/or vocational training also consider this degree because of the possibility to convert these experiences into academic credit. This is called Prior Experiential Learning Credit, and up to 24 hours of credit can be used toward the B.A.A.S. degree.

The minimum requirements for obtaining this degree include but are not limited to completing the core curriculum, taking 30 hours at the 3000/4000 level (18 of which must be from Lamar University), having at least 120 hours applied to the degree plan, and completing an Education Outcome Portfolio.

Students are encouraged to contact the B.A.A.S. advisor in order to discuss the program's entrance requirements.

Pre-Professional Programs

The College of Arts and Sciences offers pre-professional programs for students planning careers in law or in one of the primary health care delivery areas—dentistry, medicine, optometry, pharmacy, physical or occupational therapy, physician's assistant, podiatry, or veterinary medicine. Students seeking admission to a professional school

(medical, pharmacy, dental, etc.) should follow a pre-professional program. Other programs associated with the health-related professions (i.e., the allied health sciences) are administered through the Lamar Institute of Technology.

Pre-Law

Advisors: Terri B. Davis

**201D Social and Behavioral Sciences Building,
Phone 880-8533**

Jim Love

55 Maes Building, Phone 880-8538

For admission to law school, a student needs a baccalaureate degree, a high grade point average and a good score on the Law School Aptitude Test (LSAT). According to the Association of American Law Schools, skills appropriate to the legal profession that can be acquired in undergraduate education are these: comprehension and expression in words, critical understanding of human institutions and values with which the law deals, and creative power of thinking. Therefore, a broad education obtainable in a liberal arts program is excellent preparation for admission to law schools.

The pre-law programs are administered by pre-law advisors within the student's major department. Pre-law students should work closely with the appropriate advisor in planning an undergraduate curriculum and in eventually making application to law schools. One aspect of the application process is the Law School Aptitude Test (LSAT), which law schools require to be taken prior to consideration for admission.

Pre-Clinical Programs in Physical Therapy, Occupational Therapy and Physician's Assistant

Advisor: Michael E. Warren

101 Hayes Building, Phone 880-8262

The pre-clinical programs in physical therapy, occupational therapy and physician's assistant are administered by the Department of Biology. The specific programs of study are listed in that department. Further information may be obtained by contacting the advisor.

Pre-Dental, Pre-Medical, Pre-Optometry, Pre-Pharmacy, and Pre-Veterinary Medicine Programs

Advisor: Maria Clymer

106 Parker, Phone 880-8534

The Pre-Professional Advisory Committee for the Health Professions was created as a service to all students preparing for and seeking admission to professional schools of dentistry, medicine, optometry, podiatry, pharmacy and veterinary medicine. The services provided include basic advising and counseling in pre-professional matters, academic advising, information on professional school application procedures and providing composite evaluative information on the student to professional schools. It is extremely important that preprofessional students work closely with the program advisor from the time they initiate their studies at the University.

Admission to health professional schools is highly competitive and, in general, the most competitive applicants will have credentials which significantly exceed the stated minimum admissions requirements. For example, while many dental and medical schools may have stated requirements of three years of college preparation, greater than 95 percent of the students actually accepted will have had four years of college. Thus, since "pre-programs" do not lead to a degree, such students should pursue a degree-granting program. The student is then not only a more competitive professional

school applicant but has also prepared for an alternate career should admission to a professional school not be possible. Any degree granting program at the University may be chosen; however, programs within the sciences are generally the most appropriate as their required curricula contain many of the courses also required for professional school admission. In addition, careful use of elective hours in the curricula will allow for the selection of other appropriate pre-professional courses.

Students considering courses at junior colleges should contact the professional school(s) they plan to attend because many professional schools are reluctant to accept transfer hours from junior colleges.

Standardized examinations are required as a part of the admissions process to professional schools (dentistry—DAT; medicine and podiatry—MCAT; optometry—OAT; veterinary medicine—MCAT or GRE; pharmacy—PCAT). Students should consult with the preprofessional advisor concerning preparation for a particular examination and the appropriate time at which the examination should be taken.

Pre-Dental

Suggested Program of Study

First Year

Fall Semester	Spring Semester
ENGL 1301 (Composition I)..... 3	ENGL 1302 (Composition II)..... 3
BIOL 1406 (Gen. Biology I)..... 4	BIOL 1407 (Gen. Biology II)..... 4
CHEM 1411 (Gen. Chemistry I)..... 4	CHEM 1412 (Gen. Chemistry II)..... 4
MATH 1314 (College Algebra) or equivalent 3	Math as required by chosen major..... 3
PEGA..... 1	Degree requirements 3
<u>15</u>	<u>17</u>

Second Year

Fall Semester	Spring Semester
BIOL (Advanced Course)* 4	BIOL (Advanced Course)* 4
CHEM 3411 (Organic Chem. I)..... 4	CHEM 3412 (Organic Chem. II) 4
Degree requirements..... 6	Degree requirements 6
<u>14</u>	<u>14</u>

Third Year

Fall Semester	Spring Semester
PHYS 1401 (General)..... 4	PHYS 1402 (General) 4
CHEM 4411 (Biochemistry I) 4	Degree requirements 12
Degree requirements..... 8	
<u>16</u>	<u>16</u>

Fourth Year

Pre-Dental and Pre-Medical students should take the appropriate courses to satisfy the requirements for a bachelor's degree in a field of their choice. They should begin application procedures at the end of the third year (See the advisor).

*Suggested BIOL advanced courses: BIOL 2420, 3470, 3440, 4410

**Biochemistry is required or strongly recommended.

Pre-Medical

Suggested Program of Study

First Year

Fall Semester

ENGL 1301 (Composition I).....	3
BIOL 1406 (Gen. Biology I).....	4
CHEM 1411 (Gen. Chemistry I).....	4
MATH 2312 (Pre-Calculus) or MATH 1314 (College Algebra).....	3
PEGA.....	<u>1</u>
	15

Spring Semester

ENGL 1302 (Composition II).....	3
BIOL 1407 (Gen. Biology II).....	4
CHEM 1412 (Gen. Chemistry II).....	4
MATH 2376 (Calculus I) or MATH 1342 (Statistics).....	3
Degree requirements.....	<u>3</u>
	17

Second Year

Fall Semester

BIOL (Advanced Course)*.....	4
CHEM 3411 (Organic Chem. I).....	4
Degree requirements.....	<u>6</u>
	14

Spring Semester

BIOL (Advanced Course)*.....	4
CHEM 3412 (Organic Chem. II).....	4
Degree requirements.....	<u>6</u>
	14

Third Year

Fall Semester

PHYS 1401 (General).....	4
CHEM 4411 (Biochemistry I)**.....	4
Degree requirements.....	<u>8</u>
	16

Spring Semester

PHYS 1402 (General).....	4
Degree requirements.....	<u>12</u>
	16

Fourth Year

Pre-Dental and Pre-Medical students should take the appropriate courses to satisfy the requirements for a bachelor's degree in a field of their choice. They should begin application procedures at the end of the third year (See the advisor).

*Suggested BIOL advanced courses: BIOL 2420, 3470

**Biochemistry is required or strongly recommended.

Pre-Optometry

Suggested Program of Study

First Year

Fall Semester

ENGL 1301 (Composition I).....	3
BIOL 1406 (Gen. Biology I).....	4
CHEM 1411 (Gen. Chemistry I).....	4
MATH 1314 (College Algebra)* or MATH 2312 (Pre-Calculus).....	3
PEGA.....	<u>1</u>
	15

Spring Semester

ENGL 1302 (Composition II).....	3
BIOL 1407 (Gen. Biology II).....	4
CHEM 1412 (Gen. Chemistry II).....	4
MATH 1316 (Trigonometry)* or MATH 2376 (Calculus I)**.....	3
PSYC 2301.....	<u>3</u>
	17

Second Year

Fall Semester

BIOL 2420 (Microbiology).....	4
CHEM 3411 (Organic Chem. I).....	4
Degree requirements.....	6
	<u>14</u>

Spring Semester

BIOL 3440 (Adv. Physiology).....	4
CHEM 3412 (Organic Chem. II).....	4
Degree requirements.....	6
	<u>14</u>

Third Year

Fall Semester

BIOL 3428 (Comp. Anatomy).....	4
PHYS 1401 (General).....	4
PSYC 2471 (Statistics).....	4
Degree requirements.....	3
	<u>15</u>

Spring Semester

CHEM 4411 (Biochemistry I).....	4
PHYS 1402 (General).....	4
Degree requirements.....	12
	<u>20</u>

Fourth Year

Pre-Dental and Pre-Medical students should take the appropriate courses to satisfy the requirements for a bachelor's degree in a field of their choice. They should begin application procedures at the end of the third year (See the advisor).

**Both MATH 1314 and MATH 1316 are required if MATH 2312 is not taken.
**MATH 2376 is required.*

**Pre-Veterinary Medicine
Suggested Program of Study**

First Year

Fall Semester

ENGL 1301 (Composition I).....	3
BIOL 1406 (Gen. Biology I).....	4
CHEM 1411 (Gen. Chemistry I).....	4
MATH 1314 (College Algebra)* or equivalent.....	3
PEGA.....	1
	<u>15</u>

Spring Semester

ENGL 1302 (Composition II).....	3
BIOL 1407 (Gen. Biology II).....	4
CHEM 1412 (Gen. Chemistry II).....	4
MATH 2376 (Calculus I).....	3
Degree requirements.....	3
	<u>17</u>

Second Year

Fall Semester

BIOL 2420 (Microbiology).....	4
CHEM 3411 (Organic Chem. I).....	4
English Literature.....	3
Degree requirements.....	3
	<u>14</u>

Spring Semester

BIOL 3470 (Genetics).....	4
CHEM 3412 (Organic Chem. II).....	4
COMM 1315, 1318 or 3310.....	3
Degree requirements.....	3
	<u>14</u>

Third Year

Fall Semester

CHEM 4411 (Biochemistry I).....	4
PHYS 1401 (General).....	4
ENGL 3310 (Tech. Writing).....	3
Degree requirements.....	6
	<u>17</u>

Spring Semester

CHEM 4412 (Biochemistry II).....	4
PHYS 1402 (General).....	4
Degree requirements.....	8
	<u>16</u>

Pre-Pharmacy

The admission requirements to pharmacy schools vary greatly between programs; therefore, it is strongly recommended that pre-pharmacy students consult with pre-professional advisors on a regular basis. The following courses should meet the requirements of the four schools. The following courses are the minimum course requirements that the pharmacy schools in Texas share. Pharmacy schools require between 50 and 70+ hours of course work.

Suggested Program of Study

First Year

Fall Semester	Spring Semester
ENGL 1301 (Composition I)..... 3	ENGL 1302 (Composition II)..... 3
BIOL 1406 (Gen. Biology I)..... 4	BIOL 1407 (Gen. Biology II)..... 4
MATH 1314 (College Algebra)* or MATH 2312 (Pre-Calculus)..... 3	MATH 2376 (Calculus I)..... 3
CHEM 1411 (Gen. Chemistry I)..... 4	COMM 1315 (Pub. Speaking)*..... 3
14	17

Second Year

Fall Semester	Spring Semester
HIST 1301 (American Hist. I)..... 3	HIST 1302 (American Hist. II)..... 3
BIOL (Advanced Course)**..... 4	BIOL (Advanced Course)**..... 4
CHEM 3411 (Organic Chem. I)..... 4	CHEM 3412 (Organic Chem. II)..... 4
MATH 1342 (Statistics)..... 3	English Literature..... 3
14	14

*Required by most pharmacy schools.

**Biology advanced courses vary between schools.

Professional Programs

The Department of Sociology, Social Work, and Criminal Justice offers approved programs to prepare the student for public service in the areas of criminal justice and social work. The student may earn a Bachelor of Science in Criminal Justice or a Bachelor of Social Work degree.

The Department of Nursing offers the Associate of Science and Bachelor of Science in Nursing to prepare professional nurse practitioners. Each recipient of the degree is eligible to make application to write the state licensing examination given by the State Board of Nurse Examiners to become a registered nurse (RN).

Teacher Certification

The College of Arts and Sciences provides academic disciplines for teacher preparation. Each department identifies the area of concentration available. Students are encouraged to meet with the advisor for teacher certification in the College of Education and Human Development as well as the academic department chair regarding courses required, progression and graduation.

Center for Global Studies and Study Abroad

Lamar University offers a wide diversity of courses that enable students to study in foreign cities through faculty-sponsored programs, consortium or other institutions. Course offerings are from diverse fields of study—including language, anthropology, criminal justice, health care, geology, political science and art.

Lamar University faculty offerings are available for undergraduate or graduate credit or occasionally as a non-credit option. Options to study abroad for a semester or a year are also available.

International short courses have been offered in Paris and Sorbonne, France; Madrid, Spain; Heidelberg, Germany; Florence and Rome, Italy, and Tokyo, Japan.

A student approved fee allows the university to provide some scholarship assistance for students wishing to pursue study abroad opportunities

Certificate in Global Studies

Director: Ken Rivers

Phone (409) 880-8595

The certificate in Global and International Studies will be awarded in conjunction with any departmental major to any B.A. or B.S. student who has demonstrated foreign language proficiency (equivalent to four semesters of one foreign language by examination, higher education course work) and has successfully completed four elective courses with a grade of C (or higher) with substantial international content.

No more than three of the four courses can come from any one discipline, and at least three courses must come from outside the student's major discipline. If three of the four courses come from the same field outside the student's major, the student would be awarded a "concentration," not a certificate. More information is available by calling the global studies director, (409) 880-8595.

English Courses for Non-Native Students (ESL)

Students for whom English is a second language are required to demonstrate English proficiency by scoring an average of 80 on the objective portions and a minimum of 3.0 on the writing section of the English proficiency/placement test required of entering students as part of the orientation. Those students whose scores fall below the minimum scores required are referred to the Lamar Language Institute for placement in appropriate developmental courses. Registration and fees for these courses are separate from those for degree credit-bearing courses taken in the University. A student placed in developmental courses may not drop the courses.

After the satisfactory level of proficiency is attained, students who must satisfy degree requirements in English may do so by completing the following courses:

Freshman Composition:

ENGL 1301 and 1302

ENGL 2310 or 2320 or 2326 or 2331 or 2376

Cooperative Education Program

A cooperative (Co-op) Education Program in which the student spends alternate terms at work and at study is offered to qualified students in the Department of Chemistry and Physics. This program is coordinated by the Director of Cooperative Education, and students may contact that office or the individual departments for further information.

Department of Biology

Department Chair: Michael E. Warren

101 Hayes Building, Phone 880-8262

Professors: Haiduk, Harrel, Hunt, Nicoletto, Warren

Associate Professors: Christensen, Yoder

Assistant Professors: Armacost, Cover, Terry

Instructor: Corbett, Lewis

The biology department has three missions. First, the overall mission is to produce graduates with a broad-based knowledge of biology and the capacity of applying their education and critically evaluating emerging scientific knowledge. Second, the department is committed to providing research opportunities for faculty, undergraduate and graduate students. Research and publication enhance the recognition and prestige of the university and develop contacts and collaborations between Lamar faculty and colleagues elsewhere. Third, the biology department provides courses that fulfill the laboratory science requirements for many degree plans and for the core curriculum.

The Biology program is committed to the laboratory approach to science. Students completing the Biology core will have been exposed to all major areas of Biology and are allowed the freedom to concentrate on an area of special interest within the major. Sufficient hours of free electives allow a Biology major to obtain secondary teaching certification simultaneously. Faculty offices are located in the Hayes Biology Building and in the Science Auditorium. The Dujay Sanctuary in the Big Thicket and the Marine Station at Pleasure Island near Port Arthur provide opportunity for field-based study.

Areas of faculty expertise and research interests include Behavior, General Physiology, Developmental Biology, Ecology, Limnology, Cytogenetics, Microbiology, Oceanography, Ornithology, Parasitology, Entomology and Epidemiology as well as Invertebrate, Fish, Reptile and Mammal Biology.

Bachelor of Science – Biology Major

The Major in Biology supports the departmental mission in that students are exposed to current scientific concepts and principles. Moreover, students spend a significant amount of their educational time in the laboratory. By the actual performance of methods and techniques, they can engage in internal research projects. After graduation, they can effectively compete for jobs or move into graduate or professional schools.

As the study of life, Biology requires a thorough understanding of the underlying chemical and physical principles governing all life processes. Lamar students attracted to this field are well equipped to enter the professions of medicine, dentistry or one of the other career paths listed below in this section. Students are equally prepared for environmentally related careers in various governmental agencies or private companies. A career file is maintained in Room 101 of the Hayes Biology Building to acquaint students with far-ranging career possibilities. Students interested in further education leading to an advanced degree in Biology are also well prepared. Those interested in teaching should consult the related section below.

The degree of Bachelor of Science in Biology will be awarded upon the completion of the following requirements:

- A. General Requirements:
See Core Curriculum.
- B. Major:
Biology Core courses, see list below - 31 semester hours
Biology electives - 12 semester hours
- C. Supporting Sciences:
General Chemistry - eight semester hours
Organic Chemistry - eight semester hours
General Physics - eight semester hours
Molecular Biology or Cell Biology - four semester hours
Statistics - one course
- D. Electives:
Sufficient electives to complete a total of 121 semester hours

Suggested Program of Study

The following is a recommended program of study for completion of the degree plan in the minimum semester hours with the specified option. Additional requirements may be required for specialized areas, i.e. certain minor requirements, preparation for graduate school, certifications or licensures. Please see a program advisor or the department chair for details.

Bachelor of Science—Biology—Total Min. Hours: 121

First Year

Fall Semester	Spring Semester
ENGL 1301 Composition..... 3	ENGL 1302 Composition 3
BIOL 1406 General Biology..... 4	BIOL 1407 General Biology 4
CHEM 1411 General Chemistry..... 4	CHEM 1412 General Chemistry..... 4
MATH 2312 Precalculus 3	Social Science 3
PHIL 1370 Philosophy of Knowledge..... 3	
<u>17</u>	<u>14</u>

Second Year

Fall Semester	Spring Semester
ENGL 23xx Literature..... 3	CHEM 3412 Organic Chemistry..... 4
CHEM 3411 Organic Chemistry..... 4	PHYS 1402 College Physics..... 4
PHYS 1401 College Physics..... 4	COMM 1315 Public Speaking..... 3
Biology Core 4	Biology Core 4
PEGA..... 1	
<u>15</u>	<u>15</u>

Third Year

Fall Semester	Spring Semester
POLS 2301 American Government..... 3	POLS 2302 American Government 3
PSYC 2471 Statistics 4	Biology Elective..... 4
BIOL 4401 Molecular Biology or BIOL 4470 Cell Biology 4	Biology Elective..... 4
Biology Core 4	BIOL 3470 Genetics..... 4
<u>15</u>	<u>15</u>

Fourth Year

Fall Semester

BIOL 4344 Dev. Biol. Thought	3
Biology Elective.....	4
Elective	3
HIST 1301 U.S. History.....	3

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Spring Semester

A biology "writing intensive course" such as Experimental Design, Advanced Physiology, Animal Behavior....	3-4
Biology Elective.....	4
Elective	3
HIST 1302 U.S. History.....	3
Fine Arts	3

15

***The following courses must be included in the Biology Core: BIOL 2420, Microbiology; BIOL 3460, Invertebrate Zoology; BIOL 3450, Botany; BIOL 3428 or 4440, Comparative Anatomy or Vertebrate Natural History; BIOL 3470, Genetics; BIOL 4344, Development of Biological Thought.*

Pre-Professional Programs

For details concerning pre-medicine, pre-dental and other pre-professional programs leading to professions in medicine, consult the College of Arts and Sciences section of this bulletin.

Teacher Certification – Biology

Certification to teach Biology can be obtained along with a BS in Biology. Consult with the Biology Department chair for specific information. A list of Biology courses for certification is available in the departmental offices.

***Bachelor of Science in Psychology and**

***Bachelor of Science in Biology**

Suggested Program of Study – Total Min. Hours: 141

First Year

BIOL 1406, 1407 General	8
CHEM 1411, 1412 General	8
Engl Comp	6
MATH 2312 Precalculus	3
PSYC 2301 Intro to Psy	3
PSYC 2471 Intro to Stat.....	4
MATH 2413 Calculus	3

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Second Year

CHEM 3411, 3412 Organic.....	8
BIOL 3428 Comparative Anatomy or 4440 Vert Natural Hist	4
BIOL 2420 Microbiology	4
PSYC 3420 Methods.....	4
Engl Literature	3
PHIL 1370	3
***Psync Advanced	3
PEGA.....	1

30

Summer

POLS 2301, 2302	6
Fine Arts	3

9

Third Year

American History 6
 PHYS 1401, 1402 General 8
 BIOL 3470 Genetics 4
 BIOL 3450 Botany 4
 PSYC 4430 Experimental Psy 4
 ***Psync Advanced 9

35

Fourth Year

BIOL 3460 Invert Zoology 4
 BIOL 4344 Dev. Bio. Thought 3
 A Biology "writing intensive course"
 such as Experimental Design,
 Adv. Physiology, or Animal Behavior 3
 Molecular or Cell Biology 4
 **Biol Electives 9
 ***Psync Advanced 6
 Electives 3

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**Both degrees must be awarded simultaneously.*

***Biology Electives chosen from Biol Core.*

****Advanced Psychology Electives: Group I (Choose any three): PSYC 3310, 3320, 3330, 3340, 4320; Group II (choose any three): PSYC 3360, 4310, 4360, 4380.*

†Bachelor of Science in Biology and

†Bachelor of Science in Chemistry

Suggested Program of Study – Total Min. Hours: 148

First Year

BIOL 1406, 1407 General 8
 CHEM 1411, 1412 General 8
 Engl Composition 6
 MATH 2413 Calculus I 3
 MATH 2414 Calculus II 3
 PHYS 1401, 1402 General 8

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Second Year

CHEM 3411, 3412 Organic 8
 PHYS 3350 Modern 3
 Biology Elective (3428 or 4440, Vertebrate) 4
 Social Science 3
 BIOL 3460, Invertebrate 4
 CHEM 3331, Inorganic 3
 PHIL 1370, Philosophy of Knowledge 3
 CHEM 2401, Quantitative 4

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Summer (between Freshman and Sophomore Year)

Engl Literature 3
 BIOL 2420, Microbiology 4

7

Summer (between Sophomore and Junior Year)

POLS 2301, American Govt. I 3
 POLS 2302, American Govt. II 3

6

Third Year

Biol selected from core*** 8
 American History 6
 CHEM 4131, 4132 Physical Lab 2
 CHEM 4311, 4312 Physical 6
 Fine Arts 3
 A Biology "writing intensive course"
 such as Experimental Design,
 Adv. Physiology or Animal Behavior 3
 Molecular or Cell Biology 4

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Fourth Year

BIOL 4344 Dev. Bio. Thought 3
 Biol Electives 8
 CHEM 4411 Biochem 4
 CHEM 4461 Instrumental 4
 Electives 3
 Social Science 3
 COMM 1315, Speech 3
 Chem elective 2
 CHEM 4121 Seminar 1
 Engl Lit. or ENGL 3310 Tech Report Writ 3
 PEGA, (activity) 1

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†Both degrees must be awarded simultaneously. Total: 146 semester hours + PEGA

**Chemistry electives to be selected from CHEM 4351, 4341, 4412, 4461.*

****The following courses must be included in the Biology Core: BIOL 2420, Microbiology; BIOL 3460, Invertebrate Zoology; BIOL 3450, Botany; BIOL 3428 or 4440, Comparative Anatomy or Vertebrate Natural History; BIOL 3470, Genetics.*

Biology Minor

Students must take courses to total 20 hours with at least three classes at the 3-4000 level selected from the following:

Lower level division:

BIOL 1406 General Biology I 4

BIOL 1407 General Biology II 4

BIOL 2420 Microbiology 4

BIOL 3450 Botany 4

BIOL 3460 Invert Zoology..... 4

BIOL 3470 Genetics..... 4

Select one from the following:

BIOL 3428 Comparative Vert Anatomy 4

BIOL 4440 Vert. Natural History..... 4

BIOL 4401 Ichthyology 4

BIOL 4401 Mammalogy..... 4

BIOL 4401 Ornithology..... 4

To qualify for the minor, a grade of no less than “C” must be obtained in each course applied to the minor.

Bachelor of Science – Environmental Science

Program Director: Richard C. Harrel

205-10 Hayes Building, 880-8255

Environmental Science is an interdisciplinary program concerned with protecting, monitoring and improving the environment. The degree program combines study in biology, chemistry, geology, engineering and political science in preparing the student for a career with regulatory agencies, industry or consulting firms. This degree program combines fundamental training in the basic sciences with broad training across several of the traditional disciplines to prepare students for employment or graduate study. An internship is required to integrate academic preparation with actual work experience.

The degree of Bachelor of Science in Environmental Science will be awarded upon completion of the following requirements:

- A. General Requirements:
See core curriculum, p. 15.
- B. Biology:
BIOL 1406, 1407, 2420, 4300, 4430, 4460
- C. Chemistry:
CHEM 1411, 1412, 3401, 3411, 4481
- D. Science and Mathematics:
PHYS 1401, 1402
COSM 1371
PSYC 2471
MATH 2376
GEOL 1403, 3390, 4370
CVEN 3310
6-9 hrs. approved electives

- E. POLS 4390 or BULW 3330
 F. Participate in internship BIOL 4300-02

Suggested Program of Study – Total Min. Hours: 122

First Year

Fall Semester	Spring Semester
BIOL 1406 General Biology..... 4	BIOL 1407 General Biology 4
CHEM 1411 General Chemistry..... 4	CHEM 1412 General Chemistry..... 4
ENGL 1301 Composition..... 3	ENGL 1302 Composition 3
MATH 2312 Precalculus 3	MATH 2376 Calculus or MATH 2413..... 3
14	14

Second Year

Fall Semester	Spring Semester
BIOL 2420 Microbiology..... 4	CHEM 3411 Organic Chemistry..... 4
BIOL 4460 Ecology..... 4	GEOL 4370 Meteorology 3
POLS 2301 American Government..... 3	COSC 1371 Microcomputers 3
PSYC 2471 or MATH 1342..... 3-4	POLS 2302 American Government 3
Social Science..... 3	
17-18	16

Third Year

Fall Semester	Spring Semester
BIOL 4300 Toxicology..... 3	Elective (Approved by Director)..... 4
ENGL 3310..... 3	CHEM 4481 Environmental Analysis..... 4
CVEN 3310 Water Chem. Env. Engineering 3	GEOL 1403..... 3
POLS 4390 or BULW 3330 3	Fine Arts 3
CHEM 3401 Quantitative Analysis..... 4	PEGA..... 1
16	15

Fourth Year

Fall Semester	Spring Semester
BIOL 4300-02 Internship or Elective (Approved by Director)..... 3-4	BIOL 4300-02 Internship or or Elective (Approved by Director)..... 3-4
GEOL 3390..... 3	BIOL 4430 Limnology 4
COMM 1315 Public Speaking..... 3	PHYS 1402..... 4
PHYS 1401 College Physics 4	HIST 1302 U.S. History..... 3
HIST 1301 U.S. History..... 3	
16-17	14-15

Bachelor of Science – Medical Technology

Major Advisor: Randall Terry

205-8 Hayes Building, Phone 880-7975

The Major in Medical Technology: The biology department provides the core science courses for medical technology students. In addition, students have the experience during their senior year of learning to apply their knowledge in real-world medical settings. After graduation, they are admirably trained for a career in medicine or research.

The medical technologist performs the laboratory tests required by physicians in order to properly diagnose and treat patients. Most technologists find employment in hospitals, clinics or blood banks. Medical product manufacturers and medical technical sales account for an increasing percent of career opportunities for medical technologists.

- A. General Requirements:
See Core Curriculum.
- B. Multidisciplinary Major:
Biology: 1406, 1407 General, 2420 Microbiology, 3440 Advanced Physiology, 3470 Genetics, 4405 Immunology, 4410 Parasitology
Chemistry: 1411, 1412 General, 3411, 3412 Organic, 4411 Biochem or BIOL 4470 Cell Biology
Physics: 1401, 1412 General
- C. One year internship. (See Fourth Year Clinical Training.)

Suggested Program of Study – Total Min. Hours: 120

First Year

Fall Semester	Spring Semester
ENGL 1301 Composition..... 3	ENGL 1302 Composition 3
BIOL 1406 General Biology..... 4	BIOL 1407 General Biology 4
CHEM 1411 General Chemistry..... 4	CHEM 1412 General Chemistry..... 4
MATH 2312 Precalculus 3	Fine Arts 3
PHIL 1370 Philosophy of Knowledge..... 3	PEGA..... 1
<u>17</u>	<u>15</u>

Second Year

Fall Semester	Spring Semester
BIOL 2420 Microbiology..... 4	ENGL 23xx Literature 3
BIOL 2440 Advanced Physiology..... 4	CHEM 3412 Organic Chemistry..... 4
CHEM 3411..... 4	Social Science 3
HIST 1301..... 3	HIST 1302..... 3
<u>15</u>	<u>13</u>

Summer

First Session	Second Session
PHYS 1401 College Physics..... 4	PHYS 1402 College Physics..... 4
<u>4</u>	<u>4</u>

Third Year

First Session	Second Session
PSYC 2471 Statistics 4	BIOL 4405 Immunology..... 4
BIOL 4410 Parasitology..... 4	CHEM 4411 Biochemistry (offered fall) or
COMM 1315..... 3	BIOL 4470 Cell Biology (offered spring) 4
POLS 2301 3	POLS 2302 American Government 3
COSC 1371..... 3	BIOL 3470 Genetics..... 4
<u>17</u>	<u>15</u>

Fourth Year

All the above requirements for the degree must be met before a student may be admitted to clinical training, which is 12 consecutive months at a hospital laboratory accredited for teaching by the Committee on Allied Health Education and Accreditation of the American Medical Association (AMA). A list of clinical affiliate hospital schools is provided below. After satisfactorily completing this training, the student is awarded the degree of Bachelor of Science Medical Technology.

No Lamar financial aid is available during the clinical year since the student pays no tuition.

Directors of Medical Technology Programs

*Denotes Formal Affiliation

Methodist Hospital*

6565 Fannin-Mail Station 205
Houston, TX 77030
(713) 790-2599
Program Director:
Judy Jobe, MT
Medical Director:
Abdus Saleem, M.D.

Christus St. Elizabeth Hospital*

P.O. Box 5405
Beaumont, TX 77726-5405
(409) 899-7150
Program Director:
Deborah Zink, M.B.A., MT
Medical Director:
Terry W. Bell, M.D.

University of Texas Medical Branch

School of Allied Health Sciences
301 University Boulevard
Galveston, TX 77555-1028
(409) 772-3055
Program Director:
Vicki Freeman, Ph.D.
Medical Director:
Alexander Indrikovs, M.D.

M.D. Anderson Cancer Center

1515 Holcombe Boulevard, Box 037
Houston, TX 77030
(713) 745-1688
1-800-551-9503
Program Director:
Karen Rogge-McClure
Medical Director:
Jeffrey J. Tarrand, M.D.

Pre-Physical Therapy†

Major Advisor: M.E. Warren

101 Hayes Building, Phone 880-8262

Physical therapists aid in testing and evaluation of patients, then lead the patient through activities to restore health to various impaired bodily functions of the nervous, muscular, bone and joint systems, restore the range of muscle strength, endurance and improve joint motion. Physical therapists are employed by hospitals, physicians and clinics, or may be self-employed.

First Year

Engl Comp	6
BIOL 1406, 1407 General	8
CHEM 1411, 1412 General	8
MATH 2312 Precalc	3
PSYC 2301 Intro	3
SOCI 1301	3
PSYC 2308 Child	3

34

Second Year

PHYS 1401, 1402	8
Elective	3
COMM 1315, Speech	3
BIOL 3428 Comparative Anatomy	4
PSYC 2471 Statistics	4
HIST 1301, 1302	6
BIOL 1102 Med Terminology	1
PSYC 4320 Abnormal Psychology	3

32

Third Year

BIOL 3440 Advanced Physiology	4
PSYC 2376 Adult Dev & Aging	3
MGMT 3310	3
COSC 1371	3
BIOL 2401-2402 Anatomy & Physiology	
Recommended	8
POLS 2301, 2302	6
Elective	3

30

*Electives should be chosen from Sociology, Psychology, Advanced Biology, Economics, Spanish, etc.

Texas physical therapy schools are two-year master's degree programs. The student should formulate a plan to obtain a bachelor's degree at Lamar while completing the pre-clinical courses listed above. Periodic contact with the advisor is strongly urged. Because of the highly competitive nature of the program, acceptance is not guaranteed.

Physical therapy schools in Texas:

University of Texas: Galveston, Dallas, San Antonio, El Paso.

Texas Woman's University: Denton, Dallas and Houston.

Baylor: U.S. Army San Antonio.

Southwest Texas State University: San Marcos.

Texas Tech. University: Lubbock.

Hardin-Simmons University: Abilene.

Angelo State University: San Angelo

Pre-Occupational Therapy†

Major Advisor: M.E. Warren

101 Hayes Building, Phone 880-8262

Occupational therapists aid patients who are physically injured through accident, illness or through psychological disability. The aim of the therapy is to rehabilitate the patient through application of splints, prostheses or directed occupational pursuits to maximize and extend the patient's fine motor abilities. Occupational therapists are employed by hospitals, schools and retirement homes.

First Year	Second Year
Engl Comp 6	Engl Lit 3
BIOL 2401, 2402 Anat and Physiol 8	COMM 1315, Speech 3
CHEM 1411 General 4	HIST 1301, 1302 6
PSYC 2301 3	POLS 2301, 2302 6
PSYC 2471 Statistics 4	SOCI 1301 3
PSYC 2308 Child 3	PSYC 4302 Abnormal Psychology 3
PSYC 2376 Adult Dev. & Aging 3	BIOL 1406, 1407 General 8
BIOL 1102 Medical Terminology 1	COSC 1371 Computer Science 3
32	35

Plus two or three years of clinical affiliation spent on campuses at Galveston, El Paso, San Antonio, Edinburg or Lubbock. Most programs in Texas are now granting master's degrees and require six years to complete.

Pre-Physician's Assistant†

Major Advisor: M.E. Warren

101 Hayes Building, Phone 880-8262

The physician's assistant is under the supervision and responsibility of a physician, performing duties which extend the ability of the physician to provide adequate health care. Such duties include medical history recording, routine physical exams and other duties the physician may assign.

First Year	Second Year
Engl Comp 6	CHEM 1411, 1412..... 8
MATH 1314 Algebra..... 3	BIOL 1406, 1407 General..... 8*
BIOL 2401, 2402 Anat and Physiol 8	Engl Lit 3
PSYC 2301 Introduction 3	POLS 2301, 2302 6
PSYC 2308 Child 3	COMM 1315 Speech or ENGL 3310 Tech Writ .. 3
HIST 1301, 1302 6	SOCI 1301 3
FSCS 1322 Nutrition 3	BIOL 2420 Microbiology 3
BIOL 1102 Medical Terminology..... 1	COSC 1371 (Computer Science) 3
33	37

Plus clinical training at Dallas, Galveston, Edinburg, Fort Worth or Houston Medical Centers.

†Note: Lamar University provides only the pre-clinical years for the above three programs, changes in program requirements are under the control of the schools offering the clinical programs. For detailed course requirements, contact the faculty advisor in Hayes 101. Baylor College of Medicine, UTMB Galveston and Southwestern at Dallas have M.S. programs. Applicants should have a B.S. in an appropriate field. It is anticipated that all schools will be M.S. programs within two to three years.

*Dallas requires

Biology Courses (BIOL)

1101 Supplemental Laboratory	1:1:0
This course allows a transfer student to make up a laboratory deficiency at the introductory level. <i>Departmental approval is required to enroll.</i>	
1102 Medical Terminology	1:1:0
An entry-level course which provides basic vocabulary needed to function in the medical environment Course content stresses prefix and suffix usage derived from Greek and Latin as applied to Biology. This course is not a substitute for Biology Literature.	
1406 General Biology (majors)	4:3:2
A survey of organisms, molecules, cells, tissues, photosynthesis, genetics, and evolution.	
1407 General Biology (majors)	4:3:2
Plant and vertebrate structure and function, development, reproduction, and ecology. <i>Prerequisite: BIOL 1406.</i>	
1408 Introductory Biology (non-majors)	4:3:2
A human-centered, non-chemically based course for non-science majors, includes function and problems of the human circulation, respiration, digestion, reproductive, and sensory systems.	
1409 Introductory Biology (non-majors)	4:3:2
A companion course to Biology 1408, which is not prerequisite. Includes human heredity and a consideration of the diversity and impact of the plant kingdom on human life and history as food and medicine as well as their aesthetic value.	
2401 Human Anatomy and Physiology	4:3:2
Structure and function of cells, tissues, and muscle, skeletal and nervous systems. <i>Prerequisite: Passing scores on all sections of TASP test or be TASP exempt. May not be used as a Biology major course.</i>	
2402 Human Anatomy and Physiology	4:3:2
Structure and function of the circulatory, digestive, excretory and reproductive systems. <i>Prerequisite: BIOL 2401. May not be used as a Biology major course.</i>	
2420 Microbiology	4:3:2
Micro-organisms with emphasis on those of medical significance and problems of personal and community health. <i>Prerequisite: Credit for BIOL 1406, 1407 or BIOL 2401, 2402.</i>	
3420 Embryology	4:3:3
Comparative study of meiosis, fertilization, cleavage and early embryology as it relates to development of vertebrates. <i>Prerequisite: BIOL 1406, 1407.</i>	
3428 Comparative Anatomy of the Vertebrates	4:3:3
Comparative anatomy presented from systemic viewpoint. (Offered Fall semester) <i>Prerequisite: BIOL 1406, 1407.</i>	
3440 Advanced Physiology	4:3:3
General physiology; muscle-nerve relations; digestive, circulatory, respiratory, excretory, nervous and endocrine systems. <i>Prerequisite: BIOL 1406, 1407 and CHEM 1411, 1412. (Recommended: CHEM 3411, 3412).</i>	

3450	General Botany Introduction to plant structure and function with emphasis on the seed plants. <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
3460	Invertebrate Zoology Classification, natural history, phylogenetic relationships and economic importance of the invertebrate phyla. (Offered Fall semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
3470	Genetics General principles of heredity, including human inheritance. <i>Prerequisite: BIOL 1406, 1407. (Recommended: Statistics).</i>	4:3:3
4101, 4401	Special Topics in Biology Physiological, anatomical, taxonomic and ecological biology. Laboratory and/or library work and conferences with a faculty member. May be repeated for credit when the area of study differs.	1-4:A:0
4160	Classical Biological Literature A survey of major written works in biology. <i>Prerequisite: Senior standing in biology.</i>	1:1:0
4170	Current Biological Literature A survey of modern biological works published in recent journals. <i>Prerequisite: Senior standing in biology.</i>	1:1:0
4300	Undergraduate Problems Individual investigation of a research problem in biology. Formal report to be approved by faculty members. <i>Prerequisite: Prior approval of faculty member, upperclass standing in biology.</i>	3:0:6
4305	Systematic and Evolutionary Biology A survey of evolutionary mechanisms from molecular to population levels. Consideration of speciation, adaptation and historical geology.	3:3:0
4405	Immunology Organs, tissues, cells, and molecules of the immune response and their interactions. <i>Prerequisite: BIOL 2420</i>	4:3:3
4407	Animal Behavior An analysis of the development and significance of various behavior patterns in animals from an evolutionary point of view. (Offered alternate fall semesters.)	4:3:3
4408	Mammalology Classification, identification, ecology and natural history of the mammals. Required field trips.	4:3:3
4410	Parasitology A study of the morphology, life history and host-parasite relationships of parasites of man and other animals. (Offered Fall semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
4430	Limnology Fauna, flora, ecology and productivity of fresh water. (Offered spring semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
4344	Development of Biological Thought The senior capstone course for the biology B.S. degree. Students will explore how biology has evolved as a discipline through the application of established scientific methodology. A writing-intensive biology core course designed to replace BIOL 4160 and 4170. <i>Prerequisite: Senior standing in biology.</i>	3:3:0
4440	Vertebrate Natural History Collection, identification and natural history of area fish, amphibians, reptiles, birds and mammals. (Offered Spring semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
4450	Marine Biology Habitats and community relationships of marine plants and animals. (Offered Spring semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
4460	Ecology Quantitative approach to both field and experimental studies. Interrelationships of organisms and their environment. (Offered Fall semester) <i>Prerequisite: BIOL 1406, 1407.</i>	4:3:3
4470	Cell Biology Structural and physiological functions of cells at the biochemical and molecular level. Laboratory emphasis on structure and function of mammalian cells and tissues. <i>Prerequisite: CHEM 3411, BIOL 1407 (Recommended: CHEM 4411).</i>	4:3:3

Department of Chemistry and Physics

Department Chair: Keith C. Hansen **121 Chemistry Building, Phone 880-8267**

Professors: Dorris, Hansen, Melvin, Ortego, Pizzo, Rabalais, Shukla, Whittle

Associate Professors: B. Bahrim, Irwin, Lumpkin

Assistant Professors: C. Bahrim, Bernazzani, Chen, Martin, Soukhodulets

Instructors: Li, Shen, Trout

Laboratory Coordinator: McCollum, Williams

Laboratory Manager: Bradberry

Laboratory Technician: Munda

Administrative Associate: Bishop

The Department of Chemistry and Physics provides an undergraduate program designed to train students as professional chemists, with American Chemical Society certification, and professional physicists qualified to obtain employment in industry, education, or to enter postgraduate programs in professional or academic areas. The department also provides service courses for sciences, engineering, pre-health sciences, pre-professional, education, and non-technical majors. The Master of Science program in Chemistry prepares students for advanced graduate studies or entry into industrial or educational positions.

The departmental mission is to:

1. Ensure quality instruction as a primary focus.
2. Provide a positive learning environment for students.
3. Promote scholarship by mentoring students.
4. Maintain a faculty of teacher scholars.

The Department offers programs leading to B.S. and B.A. degrees in Chemistry and the B.S. degree in Physics, the B.S. in Forensic Chemistry and the B.A. in Biochemistry. In addition, the department offers preprofessional programs to prepare students for entrance into various professional programs such as medicine, dentistry, veterinary medicine, and pharmacy. The Chemistry and Physics Department has active research programs in several areas including environmental chemistry, surface chemistry, computational chemistry, materials science, polymer chemistry, transition metal coordination chemistry, molecular spectroscopy, organic reaction mechanisms and nuclear physics. Undergraduate students are strongly encouraged to take advantage of the opportunity to participate in one or more of these programs.

Pre-Professional Programs

For details concerning pre-medicine, pre-dental and other pre-professional programs leading to professions in medicine, consult the College of Arts and Sciences section of this bulletin.

Teacher Certification

Students wishing to teach chemistry, physics or integrated chemistry and physics in Texas public schools should consult with the department chair for detailed information.

Minimum Math Requirements for Chemistry Courses

CHEM 1421: None

CHEM 1375, CHEM 1406, CHEM 1408, CHEM 1411, CHEM 1412,

CHEM 1460, CHEM 2411, CHEM 3401, CHEM 3331, CHEM 3411, CHEM 3412,
CHEM 4411, CHEM 4412, CHEM 4481:

Completion of MATH 1314 (College Algebra) with a grade of “C” or better.
Or two years of high school algebra and one of the following: SAT math score of 500 or higher, ACT math score of 19 or higher, TASP math score of 270 or higher.

CHEM 4131, CHEM 4132, CHEM 4311, CHEM 4312,

CHEM 4341, CHEM 4461:

Completion of MATH 2414 (Calculus and Analytical Geometry II) or equivalent with a grade of “C” or better.

Bachelor of Science – Chemistry Major*

The degree of Bachelor of Science in Chemistry will be awarded upon completion of the following requirements.

A. General Requirements:

See core curriculum.

B. Science and Mathematics:

BIOL 1406, 1407 or GEOL 1403, 1404

PHYS 2425, 2426, 3350

MATH 2413, 2414, 2415

C. Chemistry:

CHEM 1411, 1412 General

CHEM 3331, 4341 Inorganic

CHEM 3411, 3412 Organic

CHEM 4411 Biochemistry

CHEM 3401, 4461 Analytical/Instrumental

CHEM 4311, 4312, 4131, 4132 Physical

CHEM 4111 Chemical Literature

CHEM 4121 Senior Seminar

D. Electives:

Nine semester hours Advanced Chemistry electives.

**American Chemical Society approved degree plan. A grade of “C” or better is required in core chemistry courses (CHEM 1411, 1412, 3401, 3331, 3411, 3412, 4311, 4312, 4341, 4411)*

Suggested Program of Study

(Bachelor of Science – Chemistry)* – Total Min. Hours: 121

First Year

Fall Semester

CHEM 1411 General.....	4
PHYS 2425 General.....	4
MATH 2413 Calc, An Geo I ^o	4
ENGL 1301 Composition.....	3

15

Spring Semester

CHEM 1412 General.....	4
PHYS 2426 General.....	4
MATH 2414 Calc, An Geo II ^o	4
ENGL 1302 or 1374 Composition.....	3
PHIL 1370.....	3

18

Second Year

Fall Semester	Spring Semester
CHEM 3401 Quantitative..... 4	Communication [#] 3
CHEM 3411 Organic..... 4	CHEM 3412 Organic..... 4
MATH 2415 Calc, An Geo III [◇] 4	PHYS 3350 Modern [‡] 3
Engl Lit..... 3	Engl Lit or Tech Wrt..... 3
	Soc Sci [#] 3
15	16

Third Year

Fall Semester	Spring Semester
CHEM 4311 Physical [◇] 3	CHEM 4312 Physical [‡] 3
CHEM 4131 Physical Lab..... 1	CHEM 4132 Physical Lab..... 1
BIOL 1406 or GEOL 1403 General..... 4	BIOL 1407 or GEOL 1404 General..... 4
CHEM 3331 Inorganic..... 3	HIST 1302 American..... 3
HIST 1301 American..... 3	CHEM 4341 Inorganic..... 3
PEGA/MULB/DANC..... 1	
15	14

Fourth Year

Fall Semester	Spring Semester
CHEM 4111 Chemical Lit..... 1	CHEM 4121 Senior Seminar..... 1
Fine Arts [#] 3	CHEM 4461 Instrumental..... 4
CHEM 4411 Biochem I..... 4	Chem advanced electives **..... 6
Chem advanced electives **..... 3	POLS 2302 Intro Am Gov II..... 3
POLS 2301 Intro Am Gov I..... 3	
14	14

Minimum 121 semester hours

**ACS approved degree plan; requirements for ACS approval may be changed by ACS. A grade of "C" or better is required in core chemistry courses (CHEM 1411, 1412, 3401, 3331, 3411, 3412, 4311, 4312, 4341, 4411).*

*** CHEM 4351 is highly recommended.*

Courses must satisfy Philosophy of Knowledge core.

‡ Physics courses MUST be completed prior to enrolling in CHEM 4312.

◇ Math courses MUST be completed prior to enrolling in CHEM 4311.

Bachelor of Science – Chemistry (Biochemistry Option)*

The degree of Bachelor of Science in Chemistry will be awarded after the completion of the following requirements:

- A. General Requirements:
See core curriculum.
- B. Science and Mathematics:
BIOL 1406, 1407, 2420
PHYS 1401, 1402, 3350
MATH 2413, 2414, 2415
- C. Chemistry:
CHEM 1411, 1412 General
CHEM 3401, 4461 Analytical/Instrumental
CHEM 3331, 4341 Inorganic
CHEM 3411, 3412 Organic
CHEM 4411, 4412 Biochemistry
CHEM 4311, 4312, 4131, 4132 Physical
CHEM 4111 Chemical Literature
CHEM 4121 Seminar

D. Electives:

4 semester hours of biology electives selected from BIOL 2476, 3440, 3470, 4405 and 6-8 hours of advanced chemistry/biology electives selected from CHEM 4351, 4371, 4471 and/or BIOL 3420, 3470, 4405.

Suggested Program of Study**(Bachelor of Science – Chemistry)* – Total Min. Hours: 130****Biochemistry Option**

The following is a recommended program of study for completion of the degree plan in the minimum semester hours with the specified option. Additional requirements may be required for specialized areas, i.e. certain minor requirements, preparation for graduate school, certifications or licensures. Please see a program advisor or the department chair for details.

First Year

Fall Semester	Spring Semester
CHEM 1411 General..... 4	CHEM 1412 General..... 4
BIOL 1406 General..... 4	BIOL 1407 General..... 4
MATH 2413 Calc. Analytic Geo. I [◇] 4	MATH 2414 Calc. Analytic Geo. II [◇] 4
ENGL 1301 Composition..... 3	Engl Comp 3
	PHIL 1370 3
15	18

Second Year

Fall Semester	Spring Semester
CHEM 3401 Quantitative..... 4	English Lit 3
CHEM 3411 Organic..... 4	CHEM 3412 Organic..... 4
PHYS 1401 General..... 4	PHYS 1402 General..... 4
MATH 2415 Calc. Analytic Geo. III [◇] 4	BIOL 2420 Microbiology..... 4
	HIST 1301 American..... 3
16	18

Third Year

Fall Semester	Spring Semester
CHEM 4311 Physical [◇] 3	CHEM 4312 Physical [‡] 3
CHEM 4131 Physical Lab..... 1	CHEM 4132 Physical Lab..... 1
PHYS 3350 Modern [‡] 3	HIST 1302 American..... 3
Biol elective 4	Soc Sci [#] 3
CHEM 3331 Inorganic..... 3	CHEM 4341 Inorganic..... 3
PEGA/MULB/DANC..... 1	
15	13

Fourth Year

Fall Semester	Spring Semester
CHEM 4111 Chemical Lit..... 1	CHEM 4121 Senior Seminar 1
Fine Arts [#] 3	CHEM 4461 Instrumental 4
CHEM 4411 Biochemistry I..... 4	CHEM 4412 Biochem. II..... 4
Chem/Biol electives [^] 3	Chem/Biol electives [^] 3-4
POLS 2301 Intro, Am. Gov. I..... 3	POLS 2302 Intro Am Gov II..... 3
Communication [#] 3	
17	15-16

*ACS approved degree plan; requirements for ACS approval may be changed by ACS. A grade of "C" or better is required in core chemistry courses (CHEM 1411, 1412, 3401, 3331, 3411, 3412, 4311, 4312, 4341, 4411).

**Selected from BIOL 2476, 3440, 3470, 4405.

Courses must satisfy Philosophy of Knowledge core (p. 15).

[^] To be selected from CHEM 4351, 4371, BIOL 3420, 3470, 4405.

[‡] Physics courses MUST be completed prior to enrolling in CHEM 4312.

[◇] Math courses MUST be completed prior to enrolling in CHEM 4311.

Bachelor of Arts – Chemistry Major

The degree of Bachelor of Arts in Chemistry will be awarded after the completion of the following requirements.

- A. General Requirements:
See core curriculum, p. 15, and general B.A. requirements, p. 68.
- B. Science and Mathematics:
BIOL 1406, 1407 or GEOL 1403, 1404
PHYS 1401, 1402
MATH 2376, 2377
- C. Chemistry
CHEM 1411, 1412 General
CHEM 3401 Analytical
CHEM 3331 Inorganic
CHEM 3411, 3412 Organic
CHEM 4311, 4131, Physical
CHEM 4111 Chemical Literature
CHEM 4121 Senior Seminar
- D. Chemistry Electives:
Four hours of Advanced Chemistry electives.
- E. Electives and Minor
14 semester hours of electives. Complete degree must include a minor of at least 18 semester hours of which 6 semester hours must be in advanced courses.

Suggested Program of Study

(Bachelor of Arts – Chemistry) – Total Min. Hours: 122

First Year

Fall Semester	Spring Semester
CHEM 1411 General..... 4	CHEM 1412 General..... 4
PHYS 1401 General..... 4	PHYS 1402 General..... 4
MATH 2376 Calc I \diamond 3	MATH 2377 Calc II \diamond 3
Engl Comp..... 3	Engl Comp..... 3
	PHIL 1370..... 3
<u>14</u>	<u>17</u>

Second Year

Fall Semester	Spring Semester
CHEM 3401 Quantitative..... 4	English Lit..... 3
BIOL 1406 or GEOL 1403 General..... 4	BIOL 1407 or GEOL 1404 General..... 4
POLS 2301 Intro Am Gov I..... 3	POLS 2302 Intro Am Gov II..... 3
Fine Arts *..... 3	PEGA/MULB/DANC..... 1
	Soc Sci *..... 3
<u>14</u>	<u>14</u>

Third Year

Fall Semester	Spring Semester
CHEM 3411 Organic..... 4	CHEM 3412 Organic..... 4
CHEM 3331 Inorganic..... 3	Engl Lit or Tech Wrt..... 3
Modern Lang Elem..... 3	HIST 1302 American..... 3
HIST 1301 American..... 3	Modern Lang Elem..... 3
Minor Elective..... 3	Minor Elective..... 3
<u>16</u>	<u>16</u>

Fourth Year

Fall Semester	Spring Semester
CHEM 4111 Chemical Lit..... 1	CHEM 4121 Senior Seminar 1
CHEM 4311 Physical..... 3	Advanced Elective 4**
CHEM 4131 Physical Lab..... 1	Modern Lang 2312 Intermediate..... 3
Modern Lang 2311 Intermediate..... 3	Minor electives 6
Communication* 3	
Minor electives 6	
17	14

*Courses must satisfy Philosophy of Knowledge core (p. 15).

‡ Physics courses MUST be completed prior to enrolling in CHEM 4312.

◊ Math courses MUST be completed prior to enrolling in CHEM 4311.

**Electives to be chosen from CHEM 4132 and 4312, CHEM 4341, CHEM 4351, CHEM 4401, CHEM 4411, CHEM 4481, CHEM 4271, CHEM 4371, CHEM 4471.

Bachelor of Arts – Biochemistry Major

The Bachelor of Arts degree in biochemistry will be awarded after the completion of the following requirements.

- A. General Requirements:
See core curriculum, p. 15, and general B.A. requirements, p. 68.
- B. Science and Mathematics:
PHYS 1401, 1402
MATH 2413, 1342
- C. Biology Minor
BIOL 1406, 1407
BIOL 2420
BIOL 3470
BIOL 4470
- D. Chemistry
CHEM 1411, 1412
CHEM 3331
CHEM 3401
CHEM 3411, 3412
CHEM 4111, 4121
CHEM 4131, 4315
CHEM 4411, 4412
- E. Modern Language: 12 hours

Suggested Program of Study

(Bachelor of Arts – Biochemistry option) – Total Min. Hours: 121

First Year

Fall Semester	Spring Semester
CHEM 1411..... 4	CHEM 1412 General..... 4
BIOL 1406..... 4	BIOL 1407 General 4
English Comp. 3	English Comp. 3
MATH 2413 Calc. and Analytical Geo. I ◊..... 4	MATH 1342 Elem. Statistics 3
	PHIL 1370 3
15	17

Second Year**Fall Semester**

PHYS 1401 General.....	4
CHEM 3411 Organic.....	4
HIST 1301 American.....	3
Modern Language.....	3
<hr/>	
	14

Spring Semester

PHYS 1402 General.....	4
CHEM 3412 Organic.....	4
HIST 1302 American.....	3
Modern Language.....	3
PEGA.....	1
<hr/>	
	15

Third Year**Fall Semester**

CHEM 4411 Biochem. I.....	4
CHEM 3331 Inorganic.....	3
BIOL 2420 Microbiology.....	4
Modern Language.....	3
Social Science*.....	3
<hr/>	
	17

Spring Semester

CHEM 4412 Biochem. II.....	4
CHEM 3401 Analytical.....	4
Fine Arts*.....	3
Modern Language.....	3
<hr/>	
	14

Fourth Year**Fall Semester**

CHEM 4111 Chemical Lit.....	1
CHEM 4315 Biophys. Chem.....	3
CHEM 4131 Physical Lab.....	1
BIOL 3470 Genetics.....	4
English Lit.....	3
POLS 2301 Intro. Americal Gov. I.....	3
<hr/>	
	15

Spring Semester

CHEM 4121 Senior Seminar.....	1
BIOL 4470 Cell Biology.....	4
POLS 2302 Intro. American Gov. II.....	3
English Lit.....	3
Comm.*.....	3
<hr/>	
	14

*Courses must satisfy Philosophy of Knowledge core (p. 15).

◊ Math courses MUST be completed prior to enrolling in CHEM 4311.

Dual Degree Bachelor of Science in Biology and Bachelor of Science in Chemistry

The degrees of Bachelor of Science in Biology and Bachelor of Science in Chemistry will be awarded upon completion of the following requirements. Both degrees must be awarded simultaneously.

- A. General Requirements:
See core curriculum, p. 15.
- B. Science and Mathematics
MATH 2413, 2414
PHYS 1401, 1402, 3350
- C. Biology:
BIOL 1406, 1407, 2428, 2420, 3450, 3460, 3470, 4160, 4170
Twelve additional semester hours of biology electives.
- D. Chemistry:
CHEM 1411, 1412, 3401, 3331, 3411, 3412, 4311, 4312, 4121, 4131, 4132, 4411, 4461
Two additional semester hours of advanced chemistry.
- E. Elective:
Eight semester hours general electives

If appropriate additional chemistry courses are completed within or in addition to the 23 hours of electives, the degree will be ACS approved. Consult department chair for details.

Suggested Program of Study**(Bachelor of Science – Biology & Chemistry) – Total Min. Hours: 146****First Year****Fall Semester**

CHEM 1411 General.....	4
PHYS 1401 General.....	4
MATH 2413 Calc I #.....	3
Engl Comp.....	3
BIOL 1406 General.....	4
	<hr/>
	18

Spring Semester

CHEM 1412 General.....	4
PHYS 1402 General.....	4
MATH 2414 Calc II #.....	3
Engl Comp.....	3
BIOL 1407 General.....	4
	<hr/>
	18

Summer Sessions**First Year**

BIOL 2420 Microbiology.....	4
Engl Lit.....	3
	<hr/>
	7

Second Year**Fall Semester**

CHEM 3401 Quantitative.....	4
CHEM 3411 Organic.....	4
BIOL 3428 Anatomy or 4440 Vertebrate.....	4
Soc Sci *.....	3
	<hr/>
	15

Spring Semester

Fine Arts *.....	3
CHEM 3412 Organic.....	4
PHYS 3350 Modern **.....	3
BIOL 3460 Invertebrate.....	4
PHIL 1370 Philosophy of Knowledge.....	3
	<hr/>
	17

Summer Sessions**Second Year**

POLS 2301 Intro Am Gov I.....	3
POLS 2302 Intro Am Gov II.....	3
	<hr/>
	6

Third Year**Fall Semester**

CHEM 4311 Physical.....	3
CHEM 4131 Physical Lab.....	1
BIOL 3450 Botany.....	4
Biol elective.....	4
HIST 1301 American.....	3
CHEM 3331 Inorganic.....	3
	<hr/>
	18

Spring Semester

CHEM 4312 Physical **.....	3
CHEM 4132 Physical Lab.....	1
BIOL 3470 Genetics.....	4
HIST 1302 American.....	3
Electives.....	4
	<hr/>
	15

Fourth Year**Fall Semester**

CHEM 4411 Biochemistry I.....	4
Communication*.....	3
BIOL 4160 Bio Lit.....	1
Chem Advanced Elective.....	2
PEGA/MULB/DANC.....	1
Biol Elective.....	4
	<hr/>
	15

Spring Semester

CHEM 4121 Senior Seminar.....	1
BIOL 4170 Bio Lit.....	1
CHEM 4461 Instrumental.....	4
Electives.....	4
Engl Soph Lit.....	3
Biol elective.....	4
	<hr/>
	17

A grade of "C" or better is required in core chemistry courses (CHEM 1411, 1412, 3401, 3331, 3411, 3412, 4311, 4312, 4411)

*Courses must satisfy Philosophy of Knowledge core (p. 15).

** Physics courses MUST be completed prior to enrolling in CHEM 4312.

Math courses MUST be completed prior to enrolling in CHEM 4311.

Bachelor of Science – Forensic Chemistry

The Bachelor of Science degree in Forensic Chemistry will be awarded after the completion of the following requirements.

- A. General Requirements:
See core curriculum, p. 15
- B. Science and Mathematics:
MATH 2413, 1342
PHYS 1401, 1402
BIOL 1406, 1407
BIOL 2420
BIOL 3470
BIOL 4300
BIOL 4401
- C. Criminal Justice
CRIJ 1301
CRIJ 2314
CRIJ 3310
CRIJ 4313
CRIJ Electives (3 hrs)
- D. Chemistry
CHEM 1411, 1412
CHEM 3401
CHEM 3411, 3412
CHEM 4315
CHEM 4411
CHEM 4111, 4121
CHEM 4461
CHEM 3491, 4491

Suggested Program of Study

(Bachelor of Science – Forensic Chemistry) – Total Min. Hours: 128

First Year

Fall Semester	Spring Semester
CHEM 1411..... 4	CHEM 1412 General..... 4
BIOL 1406..... 4	BIOL 1407 General..... 4
English Comp. 3	English Comp. 3
MATH 2413 Calc. and Analytical Geo. I..... 4	MATH 1342 Elem. Statistics..... 3
	PEGA..... 1
15	15

Second Year

Fall Semester	Spring Semester
PHYS 1401 General..... 4	PHYS 1402 General..... 4
CHEM 3411 Organic..... 4	CHEM 3412 Organic..... 4
BIOL 2420 Microbiology..... 4	BIOL 3470 Genetics..... 4
English Lit..... 3	Fine Arts* 3
	PHIL 1370 3
15	18

Third Year

Fall Semester	Spring Semester
HIST 1301 American..... 3	HIST 1302 American..... 3
CRIJ 1301 Intro. Criminal Justics..... 3	CRIJ 2314 Criminal Invest..... 3
CHEM 3401 Quantitative..... 4	CHEM 4461 Instru. Chem. Anal. 4
CHEM 3491 Intro. Forensic Science..... 4	CHEM 4315 Biophysical..... 3
BIOL 4300 Toxicology..... 3	Comm..... 3
<u>17</u>	<u>16</u>

Fourth Year

Fall Semester	Spring Semester
CHEM 4111 Chemical Lit..... 1	CHEM 4121 Senior Seminar..... 1
CHEM 4411 Biochemistry I..... 4	CHEM 4491 Forensic Chemistry..... 4
BIOL 4401 Molecular..... 4	CRIJ 4313..... 3
CRIJ 3310 Criminal Procedure & Evidence..... 3	CRIJ elective..... 3
POLS 2301 Intro. American Gov. I..... 3	POLS 2302 Intro. American Gov. II..... 3
<u>15</u>	<u>17</u>

*Courses must satisfy Philosophy of Knowledge core (p. 15).

Minor in Chemistry

A chemistry minor consists of at least 19 hours to include CHEM 1411, CHEM 1412, CHEM 3411 and two courses chosen from: CHEM 3331, CHEM 3401, CHEM 3412, CHEM 4411, CHEM 4481, or CHEM 4131 and CHEM 4311. To qualify for the minor a grade of no less than “C” must be obtained in each of the courses applied to the minor.

Physics

Physics is concerned with the basic principles of the universe and is the foundation upon which the other physical sciences—astronomy, chemistry and geology—are based. At the most fundamental level, the study of physics is subdivided into several basic areas of interest, including: mechanics, thermodynamics, electricity, magnetism, optics, quantum effects, elementary particles and relativity.

The study of physics offers a great variety of opportunities. A good foundation in physics can prepare a student for specialization in some area of research, or it can provide an excellent background for entering such varied fields as engineering, computer science, mathematics, communications, meteorology, oceanography, law, medicine and teaching.

The emphasis of the Lamar University physics program is on quality instruction at the undergraduate level. Undergraduate students are strongly encouraged to participate in research activities directed by faculty members.

The program of study in physics is one of the most flexible in the University. It offers many options and electives that make it possible to get a good foundation in physics as well as the necessary background to go into many other fields. The undergraduate degree offered is the Bachelor of Science (B.S.).

Bachelor of Science – Physics Major

This degree plan places a strong emphasis on physics and mathematics. It can be tailored to meet the needs of students preparing for graduate school or employment in a variety of fields. Many students with B.S. degrees in physics from Lamar University have been highly successful graduate students in physics at some of the best universities in the U.S. Others have succeeded as engineers, mathematicians, physicians, medical researchers, lawyers, teachers, etc. Faculty advisors help plan programs to satisfy the needs of individual students.

The degree of Bachelor of Science in Physics will be awarded upon completion of the following requirements:

A. General Requirements:

See core curriculum, General Education Requirements – Bachelor Degrees, and the Minimum Standards for Undergraduate Majors in the College of Arts and Sciences.

B. Science and Mathematics:

CHEM 1411, 1412

MATH 2413, 2414, 2415, 3401

C. Physics Core:

(Most students will take PHYS 1370, Mathematical Methods in Physics, as a preparation for PHYS 2425 and 2426)

PHYS 2425, 2426 Introductory General Physics

PHYS 3430 Analytical Mechanics

PHYS 3350 Waves and Modern Physics

PHYS 3380 Electricity and Magnetism

PHYS 4320 Quantum Mechanics or PHYS 3390 Statistical Physics

D. Concentration Area

A concentration in either chemistry, engineering or mathematics to include:

1. Chemistry: CHEM 1411, CHEM 1412, CHEM 3401, and CHEM 4311.
2. Engineering: ENGR 2301, ENGR 2302, ENGR 2311, and ENGR 2374 (replaces CHEM 1412).
3. Mathematics: MATH 2318, MATH 2413, MATH 2414, MATH 2415, MATH 3380, and MATH 3401.

E. Electives:

Additional physics electives to attain at least 32 semester hours of physics

Additional general electives to attain a total of 120 semester hours (not including the required semester of PEGA).

Suggested Program of Study

Bachelor of Science in Physics – Total Min. Hours: 121

First Year

Fall Semester	Spring Semester
PHYS 1370 Math Methods..... 3	PHYS 2425 Calc. Based Phy. I 4
MATH 2413 Calc. and Analytical Geo. I 4	MATH 2414 Calc. and Analytical Geo. II 4
CHEM 1411 General Chemistry 4	CHEM 1412 General Chemistry 4
English Comp. 3	English Composition 3
PHIL 1370 3	PEGA..... 1
17	16

Second Year

Fall Semester	Spring Semester
PHYS 2426 Calc. Based Phy. II 4	PHYS 3350 Waves and Mod. Phys. 3
MATH 2415 Calc. and Analytical Geo. III 4	MATH 3301 Ord. Diff. Equations 3
Concentration courses and/or electives 4	Concentration courses and/or electives 4
English Lit.* 3	English Lit.* 3
Fine Art* 3	
18	13

Third Year

Fall Semester	Spring Semester
PHYS 3430 Analytical Mechanics 4	PHYS 3380 Elec. and Magnetism 3
Advanced Physics 4	POLS 2302 Intro. American Gov. II 3
POLS 2301 Intro. American Gov. I 3	Concentration courses and/or Physics 9
Social Science* 3	
14	15

Fourth Year

Fall Semester	Spring Semester
PHYS 4320 3	Advanced Physics 4
HIST 1301 American 3	HIST 1302 American 3
Comm* 3	Concentration courses and/or Physics 6
Concentration courses and/or Physics 6	
15	13

*See a Physics Advisor about allowed options.

Physics as a Second Major

Physics may be selected as a second major for students wishing to broaden their education. The most popular options are to combine Physics with Engineering or Chemistry. Combinations are also available with Computer Science and Mathematics. A student may choose one degree with a double major or two separate degrees. While a second degree usually requires an additional semester of course work, the double major can be accomplished very efficiently. A Physics advisor can give you specific details on your choice of the field combinations.

Minor in Physics

A physics minor consists of (PHYS 1401 and PHYS 1402) or (PHYS 2425 and PHYS 2426), PHYS 3350, and nine additional hours of PHYS 3000/4000 level courses to total 20 credits with no grade less than "C".

Chemistry Courses (CHEM)

1375	Chemical Principles	3:3:0
	An introduction to the fundamentals of chemical structure, reactions, periodicity and the mathematical manipulations used in chemistry. May not be substituted for required chemistry courses in any degree program. <i>Prerequisite: MATH 1314 with a "C" or better.</i>	
1406	Chemistry for Allied Health Science	4:3:2
	Survey of elementary inorganic/organic chemistry and gas laws for allied health science majors. <i>Prerequisite: High school chemistry or CHEM 1375 or CHEM 2411 with a grade of "C" or better; MATH 1314.</i>	
1408	Biochemistry for Allied Health Science	4:3:2
	Elementary survey of structure, function and metabolic processes of molecules in organisms. Designed for students majoring in health sciences. <i>Prerequisite: CHEM 1406</i>	

- 1411 General Chemistry** 4:3:3
Mathematics-based review of chemical laws and theory for science, engineering and preprofessional majors.
Prerequisite: High school chemistry or CHEM 1375 with grade of "C" or better; and MATH 1314, or two years of high school algebra and SAT math scores of 500 or better.
- 1412 General Chemistry** 4:3:3
A continuation of CHEM 1411. Properties of the elements. Elementary qualitative analysis and theories of solutions and equilibrium.
Prerequisite: CHEM 1411.
- 1421 Chemistry of Color** 4:3:2
An introduction to chemical structure and reactions using a central theme of color. Emphasis is placed on qualitative aspects of chemistry.
- 1460 Honors General Chemistry** 4:3:3
Subject matter similar to CHEM 1412. Oral presentations and/or research projects are required. Classroom discussions emphasized.
Prerequisite: Membership in Honors Program and permission of department chair.
- 2411 Integrated Science** 4:3:2
An integrated approach to understanding the fundamentals of energy, electromagnetic radiation, atomic structure and chemical bonding. Applications of these principles in living systems, environmental science and technology will be emphasized. This course is part of a four course science sequence designed to provide students a basic understanding of the concepts and methodologies employed throughout the fields of science.
Prerequisites: Six hours of math including MATH 1314 (college algebra).
- 3331 Inorganic** 3:3:0
Generalization involving atomic and nuclear theory; properties of the elements with emphasis on periodicity; non-aqueous solvents, acids, bases, oxidation-reduction, etc.
Prerequisite: CHEM 1412 with grade of "C" or better.
- 3401 Quantitative Analysis** 4:3:4
Theory and practice of analytical chemistry utilizing gravimetric and titrimetric techniques.
Prerequisite: CHEM 1412 with a grade of "C" or better.
- 3411 Organic Chemistry I** 4:3:4
Current theories and chemical principles as they relate to the field of structure and reaction of the various types of organic compounds.
Prerequisite: CHEM 1412.
- 3412 Organic Chemistry II** 4:3:4
A continuation of CHEM 3411.
Prerequisite: CHEM 3411.
- 3491 Introduction to Forensic Science** 4:3:3
A survey of the basic principals of forensic science. Oral presentations and projects required.
- 4111 Chemical Literature** 1:1:0
Lecture and assigned reading in the chemical literature. Chemical literature search on an advanced level.
Prerequisite: 20 semester hours of chemistry.
- 4121 Senior Seminar** 1:1:0
Reports and assigned reading.
Prerequisite: Senior standing in chemistry.
- 4131 Physical Laboratory** 1:0:4
Laboratory applications of modern theory in physical chemistry.
Prerequisite: CHEM 3401, 4311 or parallel.
- 4132 Physical Laboratory** 1:0:4
Continuation of CHEM 4131.
Prerequisite: CHEM 4131, 4312 or parallel.
- 4311 Physical Chemistry I** 3:3:0
Modern chemical theory as applied to gases, liquids, solids and solutions.
Prerequisite: CHEM 1412, PHYS 1402 or 2426, MATH 2415 or 2377 or parallel.
- 4312 Physical Chemistry II** 3:3:0
A continuation of CHEM 4311.
Prerequisite: Chm 4311 or equivalent.
- 4315 Biophysical Chemistry** 3:3:0
An overview of the structural and physical properties of biomacromolecules. Includes discussions on protein stability, substrate binding equilibria and structure determination by both experimental and computational methods.
*Prerequisites: MATH 2413, CHEM 3412.
Corequisite: CHEM 4131.*

4341	Inorganic The quantized atom, valency and the chemical bond, and coordination chemistry with applications to biological systems. <i>Prerequisite: CHEM 3331, 4311.</i>	3:3:0
4351	Organic Polymers Chemistry of industrial polymerization of compounds, petro-chemistry or organic monomer preparation and chemical characteristics of organic polymers. Industrial field trip(s). <i>Prerequisite: CHEM 3412, 4311 or 4411 or parallel.</i>	3:3:0
4411	Biochemistry I Structures chemistry and functions of biological compounds. A survey of the detailed structures, chemistry and functions of the various classes of biologically important compounds. <i>Prerequisite: CHEM 3412 or parallel.</i>	4:3:4
4412	Biochemistry II A detailed survey of metabolic pathways and processes. <i>Prerequisite: CHEM 4411.</i>	4:3:4
4461	Instrumental Chemical Analysis Instrumental techniques of chemistry. Theory and practice in modern analytical methods. <i>Prerequisite: CHEM 3401, 3412, 4311, PHYS 3350.</i>	4:3:4
4481	Environmental Analysis The causes of environmental pollution, how environmental samples are collected and analyzed, and current governmental regulations concerning pollutants. <i>Prerequisite: CHEM 3401.</i>	4:3:4
4491	Forensic Chemistry A survey of and practice in the principal areas of forensic chemistry including microchemistry and microspectrophotometry. Topics of current interest will be introduced. <i>Prerequisite: CHEM 3412, 4461.</i>	4:3:4
4271, 4371, 4471	Introduction to Research Problems are on the undergraduate level and emphasizes research techniques. With approval of the department head, these courses may be repeated for credit. <i>Prerequisite: Minimum of eight semester hours of chemistry above the freshman level and permission of instructor.</i>	2-4:A:0
4101, 4301, 4401	Special Topics in Chemistry Topics in under-graduate analytical, inorganic, organic and physical chemistry or biochemistry. Library and/or laboratory work and conferences with a faculty member. With permission of the department head, student may repeat the course for credit when the area of study is different. <i>Prerequisite: Approval of instructor and department chair.</i>	1-4:A:0

Physics Courses (PHYS)

1370	Mathematical Methods in Physics Mathematics applied to physics problems, graphical analysis, vector operations, fields and potentials. <i>Prerequisite: Registration in or credit for MATH 2413.</i>	3:3:0
1401	General Physics, Mechanics and Heat Designed for majors in the physical or natural sciences. Emphasis is placed upon understanding and application of basic physical laws. <i>Prerequisite: MATH 1316 or high school trigonometry.</i>	4:3:2
1402	General Physics, Sound, Light, Electricity and Magnetism A continuation of PHYS 1401. <i>Prerequisite: PHYS 1401.</i>	4:3:2
1405	Elementary Physics I Designed for non-science/non-engineering majors. The basic interactions in nature, how things move and why, are studied.	4:3:2
1407	Elementary Physics II Designed for non-science/non-engineering majors. Topics covered are heat, vibrations and waves, sound, light. PHYS 1405 is NOT a pre-requisite for PHYS 1407.	4:3:2
1411	Introduction to Astronomy A survey of facts and an introduction to important astronomical theories. The solar system, stars, nebulae and star systems. Includes a lab component.	4:3:2
2170	Supplemental Laboratory Designed to allow a transfer student to make up one laboratory deficiency at the introductory level. <i>Departmental approval is required to enroll.</i>	1:0:3

2411	Integrated Science	4:3:2
	An integrated approach to science and mathematics are presented from the physics perspective. Fundamental issues are addressed such as natural order, energy principles of motion and heat, electricity, light, and current issues in physics. <i>Prerequisites: six hours of math including MATH 1314 (college algebra).</i>	
2425	Calculus Based Physics I	4:3:3
	Mechanics, vibrations, heat. <i>Prerequisite: MATH 2413 and either PHYS 1370 or 600 Math SAT</i>	
2426	Calculus Based Physics II	4:3:3
	Electricity, magnetism, sound waves, optics. <i>Prerequisite: PHYS 2425 and MATH 2414.</i>	
3350	Waves and Modern Physics	3:3:0
	Conservation laws; special relativity; quantum effects; atomic structure; X-rays, nuclear and solid state physics. <i>Prerequisite: PHYS 2426 or 1401, 1402 and MATH 2415.</i>	
3380	Electricity and Magnetism	3:3:0
	Electrostatic fields; potential; capacitance; dielectrics; electromagnetic waves. Maxwell's equations; conduction in gases; thermoelectricity. <i>Prerequisite: PHYS 3430 and MATH 3401.</i>	
3390	Statistical Physics	3:3:0
	Temperature and thermometry; internal energy, entropy, and thermodynamic potentials; introduction to the kinetic theory of gases and the Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics. <i>Prerequisite: PHYS 3430, Differential Equations and credit or registration in Modern Physics.</i>	
3430	Analytical Mechanics	4:3:3
	Use of vector notation in formulating and applying Newton's laws and the principles of momentum and energy. Dynamics of particles and rigid bodies emphasized. Statics treated briefly. <i>Prerequisite: PHYS 2425-2426 or 1401-1402 and credit for, or registration in, differential equations.</i>	
3460	Electrical Measurements	4:2:4
	Theoretical and practical definitions of electrical units; data handling and analysis; precision DC measurement of resistance, potential difference and current; galvanometer characteristics; AC bridge measurement of self and mutual inductance, capacitance and frequency; magnetic measurements. <i>Prerequisite: PHYS 2426 or 1401, 1402 and MATH 2415.</i>	
4101, 4201, 4301	Special Topics in Physics	1-3:A:0
	Topics in undergraduate mechanics, electromagnetism, energy conversion or particle physics. Library work and conferences with a faculty member. Student may repeat the course for credit when the area of study is different.	
4210	Research I	2:0:6
	Introduction to Physics Research. Starting a research investigation defining a problem, conducting literature search, assembling resources and initiating a project. <i>Prerequisite: Modern Physics and (3430 or 3380).</i>	
4220	Research II	2:0:6
	Introduction to Physics Research. Completing a project started in PHYS 4210. Completing the project and writing a report in publication form. <i>Prerequisite: PHYS 4210.</i>	
4310	Physics Experiments	3:1:6
	Selected experiments in mechanics, electromagnetics, waves and nuclear physics which reach beyond the scope of introductory laboratories. <i>Prerequisite: 8 hours of introductory physics including a laboratory component.</i>	
4320	Introductory Quantum Mechanics	3:3:0
	Basic concepts of quantum mechanics. Schrodinger's equation; wave functions. <i>Prerequisite: PHYS 3350 and PHYS 3380.</i>	
4370	Solid State Physics	
	Crystal Structure, crystal dynamics, energy bands in crystalline solids, semiconductors, magnetism.	
4480	Optics	4:3:3
	Physical and Quantum Optics. Propagation of light; interference; diffraction; optics of solids; thermal radiation and light quanta; optical spectra; lasers. <i>Prerequisite: PHYS 3350 and PHYS 3380.</i>	

Department of Computer Science

Department Chair: Lawrence J. Osborne

201 Maes Building, Phone 880-8775

Professors: Doerschuk, Koh, Osborne

Associate Professor: Tran

Assistant Professors: Andrei, Foreman, Liu, Qi, Sun

Adjunct Professors: Buchberger, Webster

Lecturers: Beard, Wang

Accreditation

The Bachelor of Science in Computer Science degree is accredited by the Computing Accreditation Commission (CAC) of the Accreditation Board of Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700.

Mission Statement

The department will offer an education that is highly regarded by students, colleagues, industry, and other universities for its quality in teaching and in pure and applied research. We recognize that computer science requires a solid foundation in fundamental principles in order to prepare our graduates for continued learning and adaptation to the increasingly rapid changes likely to occur in information technology. Our department prepares its students for professional employment and graduate education through study and implementation of the fundamental principles of theory, abstraction, and software design, while at the same time presenting the ethical and social issues associated with computer science. We believe that the work environment should enable everyone involved to feel a sense of confidence, power, and self worth that will lead to the joyful pursuit of learning and effective teaching. We believe this environment is best fostered when there is a climate of collegiality and collaboration among the participants. We believe that integrity, honesty and trust are the foundation for success in any enterprise.

Objectives of the Computer Science Undergraduate Programs

1. Students of the Computer Science Program will develop professional skills and the necessary technical knowledge both in breadth and depth that prepare them for immediate employment or advanced study in computer science.
2. Graduates of the Computer Science Program will be prepared to employ mathematical tools, scientific principles and fundamental knowledge of computer science to solve problems and work in multidisciplinary teams.
3. Graduates of the Computer Science Program will be aware of ethical and professional responsibilities and the need to engage in life-long learning.
4. Graduates of the Computer Science Program will have the communication, teamwork and leadership skills necessary to function productively and professionally.

Computing Facilities

The Computer Science Department has six switched Ethernet laboratories attached to the gigabit-bandwidth campus network infrastructure through which Lamar University is connected to the Internet and World Wide Web. The equipment in the labs is abundant and available to all students. It is comprised of a diverse assortment

of hardware and software running on dual processor AMD 64-bit workstations, Sun workstations, and servers and Intel-based PCs. The department offers image and video processing equipment for multimedia-related classes. Software for advanced courses and research in database, network simulation, symbolic computation, neural networks, continuous and discrete simulation, artificial intelligence and computer graphics can be readily accessed from servers. Wireless access to the Internet is in place within the Maes Building where computer science offices are housed.

Cooperative Education Program

The Department has had long standing cooperative (COOP) programs with many companies and industries, both in southeast Texas and around the state. This has proved to be an excellent program for both the students and the companies involved. The minimum requirements to be considered for a COOP position are a GPA of at least 2.75, 30 hours college credit, and 9 hours credit in Computer Science.

Some cooperative employers are DuPont, NASA, Texas Instruments, IBM, Texaco Research, and National Instruments. Students should apply during their sophomore year.

Bachelor of Science – Computer Science

The Computer Science program at Lamar is a broad-based program in Computer Science emphasizing the areas of programming languages, data structures, information systems, theory of programming languages, software engineering, networking, database, multimedia, applications of computer science, and computer architecture. The program requires 48 hours in computer science, 20 hours in mathematics, 12 hours in laboratory science, 3 hours in free electives, and 3 hours in electrical engineering as well as the general University requirements for a bachelor's degree. Students are required to take the ETS computer science field exam during the semester in which they are graduating.

The student who completes this four-year academic program is awarded a Bachelor of Science degree in Computer Science and is well prepared to pursue a professional career as a computer scientist, or to pursue graduate work in computer science or in an area of related specialization.

Advisor: Myers Foreman

The degree of Bachelor of Science in Computer Science will be awarded upon completion of the following requirements:

- A. General Requirements:
See core curriculum.
- B. Mathematics:
MATH 2413, 2305, 2414, 1342 or 3370, 2318, 4360 or 2415.
- C. Sciences:
PHYS 2425, 2426
Lab Science (4 semester hours) – An advanced Physics Lab course or CHEM 1411, BIOL 1406, or GEOL 1403
- D. ELEN 2300 or ELEN 3431
- E. Computer Science Requirements: 48 semester hours

Note: A grade of "C" or better is necessary in required computer science courses with the following exception: a "B" or better in COSC 1336 is required before

taking COSC 1337. Similarly, a grade of "B" or better in COSC 1337 or COSC 3306 is required before taking COSC 2336.

COSC 1172, 1173, 1336

COSC 1337

COSC 2336

COSC 2372

COSC 3304

COSC 3308

COSC 3325

COSC 4172

COSC 4302

COSC 4310

CPSC 3302

CPSC 3320

CPSC 4340

CPSC 4360

COSC/CPSC/ELEN Elective (6 semester hours) – COSC 2370, 4301, 4309, 4319, CPSC 4315, 4320, 4330, 4370; ELEN 3381, 4387, 4304 (with approval)

F. Academic Elective – 3 semester hours

G. Total: 120 semester hours

Note: Students are required to take the ETS computer science field exam during the semester in which they are graduating.

Academic Policies of the Computer Science Department

In addition to the general university and college standards and policies stated in the Lamar University General Catalog, the Computer Science Department enforces the following academic standards and policies:

1. In most cases, successful completion of a class requires a grade of C or better. There are two exceptions. CS and CIS majors are expected to make a B or better in COSC 1336 before taking COSC 1337. Similarly, a grade of B or better in COSC 1337 or COSC 3306 is required before taking COSC 2336.
2. Our majors are expected to be successful in their chosen discipline. Students who have attempted at least twelve hours of computer science courses and whose GPA in such courses drops below 2.00 will be required to declare another major. Students receiving a B.S. in CS or a B.S. in CIS will be required to have an *overall GPA of at least 2.25 and a GPA in courses taken from the computer science department of at least 2.25.*
3. Pursuant to university policy, full-time students must take English composition each long semester until the minimum requirements in those areas are satisfied. In addition, full-time students must also take mathematics each long semester until at least twelve (12) hours towards the degree is completed. Students are expected to have taken mathematics at least through pre-calculus or equivalent in high school.

4. No freshman student will be allowed to take any senior-level computer science course. *A student may not register for the same class more than four times.* If a student is registered on the first class day, the course will appear on the student’s transcript. Even if the student later drops the course or withdraws from school for that semester (receiving a “Q” or “W” for that course), *the course counts as one attempt.*

Minor in Computer Science

Required courses for the **minor in computer science** with no grade less than “C” are COSC 1336 Principles of Computer Science I, COSC 1337 Principles of Computer Science II, COSC 2336 Data Structures, CPSC 3320 Data Communications/Computer Networks, CPSC 4340 Database Design, COSC 4302 Operating Systems and COSC 4360 Software Engineering for a total of 21 semester hours.

Computer Science/MBA Track

The Bachelor of Science in Computer Science program can prepare a student to complete the first year of the two years required to achieve an MBA in the College of Business. Thus, a student can receive a B.S. in computer science and an MBA within five years after the beginning of his/her study at Lamar. Utilizing the four electives for the B.S. in computer science and taking five additional courses can complete the equivalent of the classes taken in the first year of the MBA. The following courses required in business are necessary in addition to the computer science degree:

Economics 1301	(ECON 1301) this must be the Social Science Elective
Business Analysis 3320	(BUAL 3320) Elective 1
Management 3310	(MGMT 3310) Elective 2
Management 3320	(MGMT 3320) Extra Course
Accounting 2301	(ACCT 2301) Extra Course
Accounting 2302	(ACCT 2302) Extra Course
Finance 3310	(FINC 3310) Extra Course
Marketing 3310	(MKTG 3310) Elective 3
Management Information Systems 3350	(BCOM 3350) Extra Course

Students who pursue this program can begin their second year of the MBA program immediately after graduation with a B.S. in Computer Science and admission to the MBA program. Admission to the MBA program requires the Graduate Management Admission Test (GMAT).

Bachelor of Science – Computer Science

Suggested Program of Study – Total Min. Hours: 120

First Year

First Semester	
COSC 1336 Principles of CSI.....	3
COSC 1173 Programming Laboratory	1
COSC 1172 Thinking, Speaking, Writing	1
English Comp. I.....	3
MATH 2413 Calculus & Analytic Geo. I (a).....	4
PHIL 1370 Philosophy of Knowledge.....	3
	15

Second Semester

COSC 1337 Principles of CS II (a).....	3
Communications or Modern Language (b).....	3
Social Science Elective (d).....	3
English Comp. 1302 or 1374.....	3
MATH 2305 Discrete Math	3
PEGA.....	2
	17

Second Year

First Semester

COSC 2336 Data Structures and Algorithms.....	3
MATH 2414 Calculus & Analytic Geo. II.....	4
PHYS 2425.....	3
English Lit.....	3
History I (c).....	3
	<u>16</u>

Second Semester

COSC 2372 Computer Org. and Assembly.....	3
COSC 3304 Obj. Or. Design and Interfaces.....	3
MATH 1342/3370 Probability and Statistics.....	3
PHYS 2426.....	4
History 2 (c).....	3
	<u>16</u>

Third Year

First Semester

ELEN 2300/ELEN 3431	3
CPSC 3320 Computer Networks	3
COSC 3308 Programming Languages	3
MATH 2318 Linear Algebra	3
Lab Sciences	4
	<u>16</u>

Second Semester

COSC 3325 Computer Law and Ethics	3
CPSC 3302 Computer Theory	3
CPSC 4340 Database Design	3
MATH 4360 Comp. Mod. Alg./2415 Calc. III	3
Academic Elective.....	3
	<u>15</u>

Fourth Year

First Semester

COSC 4302 Operating Systems.....	3
COSC 4310 Computer Architecture.....	3
Fine Arts Elective (e)	3
POLS 2301 American Gov. I	3
	<u>12</u>

Second Semester

CPSC 4360 Software Engineering.....	3
COSC/CPSC/ELEN Elective (f).....	3
COSC/CPSC/ELEN Elective (f).....	3
COSC 4172 Senior Assessment	1
POLS 2302 American Gov. II.....	3
	<u>13</u>

Comments:

- a. Changes and substitutions must be approved by the department chair.
- b. Second semester communication/modern language courses must be chosen from the following courses: COMM 1315, 1360, 2335, 2373, 3310, or 3340; or CMDS 2375; or an introductory modern language course.
- c. Two semesters of US or Texas history from HIST 1301, 1302, 2373, 2374, 1361, 1362, 2377 or 2301.
- d. Social Science Electives are: ECON 1301, PSYC 2301, ANTH 2346 or 2351, SOCI 1301, or (both ECON 2301 & ECON 2302).
- e. Fine Arts Electives are: ARTS 1301, DANC 2304, HUMA 1315, MUSI 1306, or THEA 1310.
- f. COSC/CPSC/ELEN courses may be taken as academic electives. The COSC/CPSC/ELEN electives are: COSC 2370, 4301, 4307, 4319; CPSC 4305, 4320, 4330, 4370; ELEN 3381 and 4387. Others, particularly ELEN 4304 require approval of the department chair.

Bachelor of Science – Computer Information Science Program

The Computer Information Science program has an overall emphasis on information networking and technology. An interplay of knowledge from areas such as distributed computing, software engineering, expert systems, information retrieval and database management systems define the information technology concept. Information networks are becoming an integral and strategic component of such industries as petrochemicals,

transportation, space technology, education, banking and finance, medical applications, manufacturing and retailing. Graduates of this program will possess an integrated set of skills from the fields of engineering, computer science and business.

The program requires 45 hours in computer science and computer and information sciences, 13 hours in mathematics, 24 hours in business and communications, 8 hours in laboratory science, and 6 hours of electives, as well as the general bachelor's degree requirements. Students are required to take the ETS Computer Science field exam during the semester in which they are graduating.

Graduates of this program will be prepared to respond to the varied and changing needs of an information society. Such positions as Database Administrator, Network Manager, and Chief Information Officer are among the careers that are open to graduates in this field.

Minor in Computer Information Science

Required courses for the **minor in computer information science** are COSC 1336 Principles of Computer Science I, COSC 1337 Principles of Computer Science II, COSC 2336 Data Structures, CPSC 3320 Data Communications/Computer Networks, COSC 3304 Object Oriented Design or CPSC 4330 Multimedia Processing, CPSC 4340 Database Design and COSC 4302 Operating Systems for a total of 24 semester hours.

Requirements for a Teacher's Certificate in Computer Information Science

Computer Information Science—Opt. I Specialization: (27 semester hours) COSC 1336, COSC 1337, COSC 2336, COSC 2372, COSC 3304, COSC 4302, CPSC 4340. Six hours from COSC 3308, COSC 4307, COSC 4309, CPSC 3320, CPSC 4330, MATH 2414, MATH 2305, MATH 2318, MATH 1342.

Computer Information Science—Opt. II Specialization: (27 semester hours) COSC 1336, COSC 1337, COSC 2336, COSC 2372, COSC 3304, COSC 3308, CPSC 4330, CPSC 4340, COSC 4302 or COSC 4310 or CPSC 3320.

For details concerning requirements for teacher certification and information on professional education courses, consult the College of Education and Human Development section in this catalog.

Computer Information Sciences/MBA Track

The Bachelor of Science in Computer Information Sciences program can prepare a student to complete the first year of the two years required to achieve an MBA in the College of Business. Thus, a student can receive a B.S. in Computer Information Sciences and an MBA within five years after beginning of his/her study at Lamar. Seven courses from the College of Business are required for the B.S. in computer information sciences. By utilizing four electives for the B.S. in computer information sciences, the equivalent of the classes taken in the first year of the MBA can be completed during the bachelor's degree. The following seven courses are required for the Computer Information Sciences bachelor's degree:

Economics 1301	(ECON 1301)
Business Analysis I 3310	(BUAL 3310)
Management 3310	(MGMT 3310)
Management 3320	(MGMT 3320)
Accounting 2301	(ACCT 2301)
Accounting 2302	(ACCT 2302)
Finance 3310	(FINC 3310)

If, in addition, the student uses the COSC/CPSC elective to take COSC 3325 (Computer Ethics and Law) and uses her/his other electives to take Business Analysis II 3320 (BUAL 3320), Marketing 3310 (MKTG 3310) and Management Information Systems 3350 (BCOM 3350), then the equivalent of the first year of MBA courses will have been completed. Students with a B.S. in computer information sciences who pursue this program can begin their second year of the MBA program immediately after graduation and admission to the MBA program. Admission to the MBA program requires the Graduate Management Admission Test (GMAT).

Bachelor of Science – Computer Information Science

Advisor: Myers Foreman

The degree of Bachelor of Science in Computer Information Sciences will be awarded upon completion of the following requirements:

A. General Requirements:

See core curriculum.

B. Mathematics and Science Requirements:

MATH 2413, 2305, 1342 or BUAL 3310, 2318.

Lab Science (8 semester hours) – PHYS 1401 and 1402, CHEM 1411 and 1412, BIOL 1406 and 1407, or GEOL 1403 and 1404.

C. ECON 1301, ACCT 2301, MGMT 3310, ACCT 2302, MGMT 3320

D. Computer Science Requirements:

45 semester hours

Note: A grade of "C" or better is necessary in required computer science courses with the following exception: a "B" or better in COSC 1336 is required before taking COSC 1337. Similarly, a grade of "B" or better in COSC 1337 or COSC 3306 is required before taking COSC 2336.

COSC 1172, 1173, 1336

COSC 1337

COSC 3304

COSC 4172

COSC 4302

COSC 4330

COSC 4360

CPSC 3320

CPSC 4315

CPSC 4340

CPSC 4370 or COSC 4307

COSC/CPSC Elective (3 semester hours) – COSC 3302, 3308, 3325, 4301, 4307, 4309, 4310, 4319, CPSC 4320, 4370.

F. Academic Elective – 6 semester hours

G. Total: 121 semester hours

Note: Students are required to take the ETS computer science field exam during the semester in which they are graduating.

B.S. Computer Information Science

Suggested Program of Study – Total Min. Hours: 121

First Year

First Semester	Second Semester
COSC 1336 Principles of CSI..... 3	COSC 1337 Principles of CS II (a)..... 3
COSC 1173 Programming Laboratory 1	Communication or Modern Language (b)..... 3
COSC 1172 Thinking, Speaking, Writing 1	ECON 1301 Principles and Policies 3
English Comp. 1301 3	English Comp. 1302 or 1374 3
MATH 2413 Calculus & Analytic Geo. I (a)..... 4	MATH 2305 Discrete Math 3
PHIL 1370 Philosophy of Knowledge..... 3	PEGA..... 1
15	16

Second Year

First Semester	Second Semester
COSC 2336 Data Structures and Algorithms..... 3	CPSC 3304 Obj. Or. Design and Interfaces 3
English Literature..... 3	COSC 2372 or ELEN 2300 3
MATH 2301 American Gov. I 3	MATH 2318 Linear Algebra 3
Lab Science..... 4	Lab Science..... 4
History 1 (c) 3	History 2 (c) 3
16	16

Third Year

First Semester	Second Semester
CPSC 3320 Computer Networks 3	CPSC 4370 AI or COSC 4370 Compiler 3
CPSC 4340 Database Design..... 3	CPSC 4315 Network Systems Admin. 3
POLS 2301 American Gov. I 3	POLS 2302 American Gov. II 3
ACCT 2301 Intro. Financial Accounting..... 3	MGMT 3310 Org. Behavior and Mgmt. 3
Academic Elective..... 3	Academic Elective..... 3
15	15

Fourth Year

First Semester	Second Semester
CPSC 4330 Multimedia/COSC 4319 Graphics... 3	CPSC 4360 Software Engineering..... 3
COSC/CPSC Elective (e)..... 3	COSC 4302 Operating Systems..... 3
ACCT 2302 Intro. Managerial Accounting 3	COSC/CPSC/ELEN Elective (e)..... 3
FINC 3310 Principles of Finance..... 3	COSC 4172 Senior Assessment 1
Fine Arts Elective (d) 3	MGMT 3320 Production Management 3
15	13

Comments:

- Changes and substitutions must be approved by the department chair.
- COMM 1315, 1360, 2335, 2373, 3310, or 3340; or CMDS 2375; or an introductory modern language course.
- Two semesters of US or Texas history from HIST 1301, 1302, 2373, 2374, 1361, 1362, 2377, or 2301.
- Fine Arts electives are: ARTS 1301, DANC 2304, HUMA 1315, MUSI 1306, or THEA 1310.
- Acceptable COSC/CPSC electives are: any of the alternative courses listed above as well as: COSC 3302, 3308, 3325, 4301, 4307, 4309, 4310, 4319, 4322, 4345; CPSC 4320 and 4370.

Computer Science Courses (COSC)

- 1172 Thinking, Speaking, and Writing** **1:1:0**
 The objective of this course is to give students experiences that convey the five main activities of a person working in the area of computer science: reading, listening, thinking, speaking, writing and cooperative interaction. Designed for incoming freshmen.
Corequisites: COSC 1173 and COSC 1336.
- 1173 Programming Lab** **1:1:0**
 Practical applications of concepts learned in Computer Science 1373 (COSC 1373). Hands-on instruction in programming in an object-oriented language, developing, debugging, and testing programming projects.
Corequisites: COSC 1172 and COSC 1336.
- 1336 Programming Fundamentals I** **3:3:0**
 Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing and debugging. This course assumes computer literacy.
Corequisites: COSC 1172 and COSC 1173.
- 1337 Programming Fundamentals II** **3:3:0**
 Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.
Prerequisite: COSC 1336 with grade of "B" or better/COSC 3306.
- 1371 Microcomputers** **3:3:0**
 The objective of this course is to teach students to solve realistic problems using the most readily available "off-the-shelf" general applications software: word processing, spreadsheets and database systems. The course familiarizes the student with Internet resources. Students learn the basic components of computer systems and networks (This course may not be taken as a COSC/CPSC elective.)
- 2336 Programming Fundamentals III** **3:3:0**
 Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.
Prerequisites: COSC 1337 or COSC 3306 with grade of "B" or better/3306 and MATH 2413 and MATH 2305.
- 2360 Career Development I**
 Student works full-time during the semester for an off-campus enterprise in work that exposes the student to a work environment similar to that which will be encountered upon graduation.
Prerequisites: COSC 2336 and approval of department chair.
- 2370 Scientific Programming** **3:0:3**
 Introduction to numerical methods and mathematical software for scientific computation. Floating point number systems, machine precision, cancellation error, conditioning and stability. Gaussian elimination and matrix decomposition. Numerical integration.
Prerequisites: MATH 2413, and MATH 2305, COSC 2336.
- 2372 Computer Organization/Assembly Language** **3:2:2**
 Basic computer architecture and assembly language programming. System software, including loaders and assemblers. input-output devices and programming.
Prerequisite: COSC 1336.
- 2380 Career Development II**
 Student works full-time during the semester for an off-campus enterprise in work that exposes the student to a work environment similar to that which will be encountered upon graduation.
Prerequisite: COSC 2360 (Career Development I) and approval of department chair.
Prerequisite: COSC 1337.
- 3301 Special Language Topics** **3:3:0**
 The study of the theory and applications of specialized computer languages and language packages. This course may be repeated for different languages and language packages. This course is an academic elective and will not be counted as a COSC/CPSC elective.
Prerequisite: Consent of instructor.

- 3302 Introduction to Computation Theory** 3:3:0
Preliminary review/introduction of the mathematics and logic for the course. Programs and computable functions, primitive recursive functions, the universal program, Turing machines and regular languages.
Prerequisites: COSC 1337, MATH 2414 and MATH 2318.
- 3304 Introduction to User Interfaces and Object Oriented Design** 3:3:0
This course will include user interfaces and elementary topics in computer-human interaction. Software such as Motif, X-Windows, and Java GUIs will be presented. In addition, interfaces in communications and alternative architectures will be discussed.
Prerequisite: COSC 2336.
- 3306 UNIX/C++** 3:3:0
Programming in C++ in a UNIX environment.
Prerequisite: Approval of department chair.
- 3308 Design of Programming Languages** 3:3:0
The organization of programming languages, especially run-time behavior of programs; the formal study of programming language specification and analysis, and the continued development of problem solution and programming skills.
Prerequisite: COSC 2336.
- 3321 Advanced Microcomputer Applications** 3:3:0
Hardware components, languages, operating systems, data file systems, utilities and software development for micro-computers.
Prerequisite: COSC 1371.
- 3325 Computer Law/Ethics** 3:3:0
Ethical considerations for computer educators and computer scientists, and computer-related security and privacy issues. Copyright, patent, trademark and trade secret issues, venture capitalists, tax issues, computer torts, deceptive trade practices, computer crime, contract issues, constitutional issues and international trade considerations.
Prerequisite: COSC 1336 or COSC 1371 or another programming course.
- 3350 Career Development III**
Student works full-time during the semester for an off-campus enterprise in work that exposes the student to a work environment similar to that which will be encountered upon graduation.
Prerequisites: COSC 2380 (Career Development II) and approval of department chair.
- 3370 Career Development IV**
Student works full-time during the semester for an off-campus enterprise in work that exposes the student to a work environment similar to that which will be encountered upon graduation.
Prerequisites: COSC 3350 (Career Development III) and approval of department chair.
- 4101, 4201, 4301 Special Topics** 3:3:0
An investigation into specialized areas of computer science under the guidance of a faculty member. This course may be repeated for credit when topics of investigation differ.
- 4172 Senior Assessment** 1:1:0
Students take exam to measure performance against other seniors in a national standardized exam. In addition, they complete an EXIT survey, discuss job opportunities, the computer industry, and career management.
Prerequisite: Student must be classified as a senior enrolled in last semester before graduation.
- 4302 Introduction to Operating Systems** 3:3:0
To introduce the major concept areas of operating systems principles develop an understanding of the organization and architecture of computer systems at the register-transfer and programming levels of system description and the inter-relationships between the operating system and the architecture of computer systems.
Prerequisites: COSC 2371, 2336 and 2372.
- 4307 Compiler Construction** 3:3:0
Formal definition of programming languages, including specifications of syntax, semantics, statements and notations used in the construction of compilers, structure of translators and compilers.
Prerequisites: COSC 2336 and MATH 2314.
- 4309 Introduction to Simulation Techniques** 3:3:0
Modeling of business and scientific discrete-event processes. Random number generation techniques, Monte-Carlo simulation, discrete-event and unit time advance algorithms, queuing theory and stochastic models. Introduction to systems simulation and industrial dynamics. Programming assignments in C++ and specialized programming languages for simulation (GPSS, SIMSCRIPT, SIMULA).
Prerequisites: COSC 2336, MATH 2413 and MATH 1342 or MATH 3370.

- 4310 Introduction to Computer Architecture** **3:3:0**
 This course is an introduction to computer architecture, with a special focus on the principles behind contemporary uniprocessor design. It will explore the interaction of hardware and software, and consider the efficient use of hardware to achieve high performance. Topics will include instruction set architecture, computer arithmetic, processor design, performance measurement and analysis, pipelining, caches and virtual memory, high performance MIPS implementation, parallel processors, and design tradeoffs among cost, performance and complexity.
Prerequisites: COSC 2372 and ELEN 2300 or equivalent.
- 4319 Computer Graphics** **3:3:0**
 Basic principles for the design, use and understanding of graphics systems. Design and implementation of graphics software packages, applications and algorithms for creating and manipulating graphic displays.
Prerequisites: COSC 2336, MATH 2318 and MATH 2414.
- 4322 Internet Programming**
 This course introduced students to the principles behind the design and programming of World Wide Web programming, XHTML scripting, event modeling, CGI, multimedia, XML, and database server software are among the topics presented.
Prerequisite: COSC 2336 (CS Programming III)
- 4345 Computer Systems Security**
 Topics covered include techniques for achieving security in multi-user computer systems and distributed systems, cryptography, intrusion detection, formal models of computer security, electronic mail, and electronic commerce.
Prerequisite: COSC 2336 (CS Programming III)

Computer Information Sciences Courses (CPSC)

- 3320 Data Comm./Computer Networks** **3:3:0**
 Study of problems and limitations associated with interconnecting computers by communication networks. Network architecture, signals, message and packet switching networks, network topology, routing, flow control, capacity assignment, protocols, coding and multiplexing.
Prerequisites: COSC 2336, MATH 2413.
- 4315 Network Systems Administration** **3:3:0**
 Topics include system security, shell programming, setting up user accounts, system configuration, system startup, management of file systems and disks, and backup and restore operations.
Prerequisite: COSC 2336.
- 4320 Advanced Topics in Networks** **3:3:0**
 Topics will change to keep pace with changes in the field. The course will include topics from personal communication systems, mobile computing, gigabit network protocols, routing, optical computing, and multimedia.
Prerequisite: CPSC 3320.
- 4330 Multimedia Processing** **3:3:0**
 Television style viewing and sound interfacing to computer systems. Software and architectural interconnection requirements of digital interactive video and audio technology, graphical user interface. Definition, examples, application, review of major implementations, and architecture of hypertext systems. Voice technology: synthesis, recognition and response. Student projects.
Prerequisite: COSC 2336.
- 4340 Database Design** **3:3:0**
 Logical and physical database system organization; logical models; design issues; secondary storage considerations. Design issues emphasizing the normal decomposition theory of the n-ary relational data model, the RM/T model and an introduction to logical implementations of databases.
Prerequisite: COSC 3304.
- 4360 Software Engineering** **3:3:0**
 Systems analysis, software requirements analysis and definition, specification techniques, software design methodologies, performance measurement, validation and verification and quality assurance techniques.
Prerequisite: COSC 2336.
- 4370 Introduction to Artificial Intelligence** **3:3:0**
 Introduction to concepts and ideas in artificial intelligence. Topics include search techniques, knowledge representation, control strategies and advanced problem-solving architecture.
Prerequisite: COSC 2336.

Department of Earth and Space Sciences

Department Chair: Jim Jordan

113 Geology Building, Phone 880-8236

Professors: R. Cooper, J. Jordan, D. Owen, J. Westgate

Assistant Professor: J. Kruger

Professor Emeritus: Stevens

Lecturers: J. Pittman, B. Schmidt

Adjunct Instructors: M. Adams, B. Allen, R. Ashmore, L. Coggins, B. Cooper, M. Engle, C. Owen, J. Satterfield

Geology Advisors: R. Cooper, D. Owen

Earth Science Advisors: J. Westgate, D. Owen

Space Science Advisor: J. Jordan

The mission of the Department of Earth and Space Sciences as a group, and earth and space science as disciplines, is to integrate a broad diversity and range of scientific information regarding the Earth and its surroundings in space into a coherent and understandable framework. This integration of Earth and Space-related information is unique among the sciences and makes the department an important part of the College of Arts and Sciences. In addition, the department functions as a major contributor to a student's appreciation of the importance of their physical surroundings and environment to their daily lives.

The Department of Earth and Space Sciences specializes in undergraduate instruction and offers bachelor's degrees in Geology and Earth Science and minors in Geology, Earth Science, and Space Science. Graduates may be employed in industry (petroleum, mining, engineering, hydrogeology, environmental geology and aerospace), by government agencies or may elect to pursue graduate training at another institution. Certification in 4-8 science is offered in conjunction with the College of Education and Human Development.

Department faculty have a broad range of research and scholarly interests. These include traditional specializations in geology including stratigraphy, sedimentology, paleontology, petroleum geology, petrology, economic mineral deposits, environmental geology, geochemistry and geophysics. In addition faculty have interests and expertise in the geology of the Gulf Coast, geology of the Big Bend region, lunar and planetary science, computer applications to geology (geophysics, statistics, and GIS) and science education.

Bachelor of Science – Geology

Advisors: Cooper, Owen

The Bachelor of Science in Geology will be awarded upon completion of the minimum following requirements:

A. General Requirements:

See Philosophy of Knowledge core curriculum.

48 semester hours

B. Other Required Courses:

64 semester hours

MATH 2414, 3312 – 7 semester hours

- CHEM 1411, 1412 – 8 semester hours
- PHYS 1401, 1402 – 8 semester hours
- GEOL 2377 – 3 semester hours
- GEOL 2471 – 4 semester hours
- GEOL 3420 – 4 semester hours
- GEOL 3450 – 4 semester hours
- GEOL 3600 – 6 semester hours
- GEOL 4101, 4101 Geomorph. Lab, 4101 Geophys. Lab – 3 semester hours
- GEOL 4301 Geo. Seminar – 3 semester hours
- GEOL 4330 – 3 semester hours
- GEOL 4361 or 4371 – 3 semester hours
- GEOL 4410, 4420 – 8 semester hours

- C. Prescribed Electives – 8 semester hours
Electives from the 3000-4000 level sciences, math and engineering courses.
- D. Total: 120 semester hours

Recommended Program of Study – Total Min. Hours: 129

The following courses are highly recommended for the program of study for completion of the degree plan for the Bachelor of Science in Geology. Advanced elective requirements may be prescribed for specialized areas, i.e. certain minor requirements, preparation for graduate school, certifications or licensures. Please see a program advisor or the department chair for details and differences.

First Year

Fall Semester	Spring Semester
GEOL 1403 Geology I..... 4	GEOL 1404 Geology II..... 4
CHEM 1411 General.....4	CHEM 1412 General.....4
MATH 2312 Pre-Calculus..... 3	MATH 2413 Calculus I..... 4
ENGL 1301 Composition..... 3	ENGL 1302 Composition 3
PHIL 13703	PEGA.....1
<u>17</u>	<u>16</u>

Second Year

Fall Semester	Spring Semester
GEOL 2471 Mineralogy 4	GEOL 2377 Geomorphology 3
MATH 2414 Calculus II.....4	GEOL 4101 Geomorph. Lab 1
PHYS 1401 General..... 4	PHYS 1402 General..... 4
English Lit..... 3	COMM 1315 3
HIST 1301 3	HIST 1302..... 3
<u>18</u>	<u>14</u>

Third Year

Fall Semester	Spring Semester
GEOL 3450 Petrology 4	GEOL 3420 Structural Geology..... 4
MATH 3312 Statistics..... 3	GEOL 4410 Strat. Sed..... 4
POLS 2301 3	POLS 2301 3
ANTH 2346..... 3	Advanced Elective*4
<u>13</u>	<u>15</u>
Summer	
GEOL 3600 Field Camp 6	

Fourth Year

Fall Semester	Spring Semester
GEOL 4361 or GEOL 4371..... 3	GEOL 4301..... 3
GEOL 4101 Geophysics Lab..... 1	GEOL 4330..... 3
Fine Arts 3	GEOL 4101..... 1
GEOL 4420..... 4	Advanced Elective* 4
Advanced Elective* 4	Advanced Elective* 4
<u>15</u>	<u>15</u>

**Advanced electives must be at the 3000 or 4000 level from geology or supporting sciences, math and engineering, depending on career goals.*

Professional Geoscientist Emphasis

The State of Texas has legislated that any geologist practicing geology in the public domain affected by engineering and environmental geology policies in the State of Texas must be registered as a Professional Geoscientist (P.G.). Acquiring the P.G. license requires passing two exams: the Fundamentals of Geology (F.G.) and the Professional Geoscientist (P.G.) exams prepared and distributed by the Association of State Boards of Geologists (ASBOG). The license also requires at least five years experience practicing geology in addition to passing the exams. Students who wish to be licensed as a P.G. are strongly encouraged to take the Fundamentals of Geology exam near graduation. Students seeking the P.G. are also strongly encouraged to take Hydrogeology and Remote Sensing in addition to required geology courses.

Bachelor of Science – Earth Science

Advisors: Westgate, Owen

The Bachelor of Science in Earth Science will be awarded upon completion of the following requirements:

- A. General Requirements:
See Philosophy of Knowledge core curriculum.
48 semester hours
- B. Other Sciences and Mathematics
31 semester hours
CHEM 1406, 2411
PHYS 1407, 2411
BIOL 1406, 1407
MATH 1314
PSYC 2471
- C. Geology Requirements:
27 semester hours.
GEOL 2471 – 4 semester hours
GEOL 2377 – 3 semester hours
GEOL 3101 – 1 semester hours
GEOL 4101 – 3 labs, 3 semester hours
GEOL 4360, GEOL 4370, GEOL 4380 and GEOL 4101; GEOL 4390 – 12 semester hours
GEOL 4411 – 4 semester hours

- D. Prescribed electives if seeking Teacher Certification in Secondary School Science – 15 semester hours
PEDG 3310, 3320, 3350, 3351, 3380, 4340, 4950, READ 3326
- E. Free electives if not seeking Teacher Certification – 15 semester hours
Electives must be selected from 3000-4000 level.
- F. Total: 121 semester hours

Suggested Program of Study – Total Min. Hours: 121

The following is a recommended program of study for completion of the degree plan in the minimum semester hours for the Bachelor of Science in Earth Science. Additional requirements may be prescribed for specialized areas, i.e. certain minor requirements, preparaton for graduate school, certifications or licensures. Please see a program advisor or the department chair for details.

First Year

Fall Semester	Spring Semester
GEOL 1403 Geology I..... 4	GEOL 1404 Geology II..... 4
PHYS 2411 Int. Sci..... 4	CHEM 2411 Int. Sci..... 4
MATH 1314 Algebra..... 3	PSYC 2471 Statistics..... 4
ENGL 1301 Composition..... 3	ENGL 1302 Composition..... 3
14	15

Second Year

Fall Semester	Spring Semester
GEOL 2471 Mineralogy 4	GEOL 2377 Geomorphology 3
BIOL 1406 General 4	GEOL 4101 Geomorph. Lab 1
PHYS 1407 Conceptual..... 4	CHEM 1406..... 4
English Lit..... 3	BIOL 1407 General 4
15	15

Third Year

Fall Semester	Spring Semester
GEOL 4380 Oceanography 3	GEOL 4370 Meteorology 3
GEOL 3101 Phys. Lab Inst..... 1	PHIL 1370 3
POLS 2301 3	GEOL 4361 Geochemistry..... 3
ANTH 2346 3	POLS 2302 3
HIST 1302 3	COMM 1315 3
PEGA 1	Fine Arts 3
14	18
Summer	
GEOL 4360 3	

Fourth Year

Fall Semester	Spring Semester
GEOL 4411..... 4	GEOL 4390..... 3
GEOL 3101..... 1	GEOL 4101..... 1
Advanced Elective*..... 4	Advanced Elective* 4
Advanced Elective*..... 3	Advanced Elective* 4
Advanced Elective*..... 3	Advanced Elective* 3
15	15

*Advanced electives must be at the 3000 or 4000 level.

Teacher Certification

Students desiring certification to teach secondary school science in Texas should complete: PEDG 3310, 3320, 3350, 3351, 4340, 4950, READ 3326, PEDG 3380, 4380, 4950. Students are advised to consult with the Director of Certification in the College of Education and Human Development regarding current requirements for teaching certification.

Minors in Geology

The Department of Geology offers three minor degree programs: Geology, Earth Science and Space Science. The programs require 21 hours, a minimum of nine of which must be in upper-division courses. The course options for individual programs are described below.

Minor in Geology (21 credit hours required, no grade less than “C”)

Required lower division courses (12 hours):

- GEOL 1403 Physical Geology
- GEOL 1404 Historical Geology
- GEOL 2471 Mineralogy-Petrology

Upper division courses (9 hours):

- GEOL 3410 Statistics and Data Processing
- GEOL 3420 Structural Geology
- GEOL 3450 Petrology
- GEOL 4330 Geophysics
- GEOL 4361 Geochemistry
- GEOL 4371 Economic Resources with Lab (GEOL 4101)
- GEOL 4401 Advanced Physical Geology
- GEOL 4410 Stratigraphy and Sedimentology
- GEOL 4420 Paleontology
- GEOL 4101 Applied Geoscience Seminar
- GEOL 4301 Organized field trip
- GEOL 3600 Field Camp

Minor in Earth Science (21 credit hours required, no grade less than “C”)

Required lower division courses (12 hours):

- GEOL 1403 Physical Geology
- GEOL 1404 Historical Geology
- GEOL 2471 Mineralogy-Petrology

Upper division courses (9 hours):

- GEOL 3410 Statistics and Data Processing
- GEOL 2377 Physical Geology & Geomorphology Lab (GEOL 4101)
- GEOL 3390 Environmental Geography and Geology
- GEOL 3420 Structural Geology
- GEOL 3450 Petrology
- GEOL 4301 Dinosaurs
- GEOL 4360 Field Geology in Texas
- GEOL 4370 Meteorology
- GEOL 4371 Economic Resources with Lab (GEOL 4101)

GEOL 4380 Oceanography with Lab (GEOL 4101)
 GEOL 4390 Rocks and Stars
 GEOL 4410 Stratigraphy and Sedimentology
 GEOL 4420 Paleontology
 GEOL 4101 Applied Geoscience Seminar

Minor in Space Science (21 credit hours required, no grade less than "C")

Must have taken at least three (12 hours) of the following required lower division courses:

PHYS 1406, 1407 General
 PHYS 2425, 2426 Calculus-based
 PHYS 1411 Astronomy
 SPSC 1401 Space Science

Upper division courses (9 hours):

SPSC 3301 Microgravity
 SPSC 3302 Space Transportation Systems
 SPSC 3303 Orbital & Celestial Mechanics
 SPSC 4302 Space Vacuum Physics
 SPSC 4303 Planetary Materials
 SPSC 4301 Special Topics in Space Science
 GEOL 4330 Geophysics
 GEOL 4361 Geochemistry
 GEOL 4390 Rocks and Stars

Geology Courses (GEOL)

1403	Geology I: Physical Geology Earth materials, structures, tectonics, land forms, mineral resources and processes that formed them.	4:3:2
1404	Geology II: Historical Geology History of the development of our planet and its inhabitants. <i>Prerequisite: GEOL 1403</i>	4:3:2
2376	Regional and Economic Geography Regional, national, and continental units considered from the viewpoint of economic resources, resource development, organization, politics, economy, and physical landscape.	3:3:0
2377	Physical Geography and Geomorphology Fundamental concepts of local, regional, and global physical geography and geomorphology, including landform features and soils. Geology and Earth Science majors are required to take an additional laboratory component (GEOL 4101 - Geomorphology Lab) to meet degree requirements. <i>Prerequisite: GEOL 1403 and Sophomore standing</i>	3:3:0
2471	Mineralogy-Petrology Classification, properties, occurrence and identification of rock-forming minerals. <i>Prerequisite: GEOL 1403 and CHEM 1411 or 1405.</i>	4:3:3
3101	Physical Geology Lab Instruction Advanced laboratory techniques in physical geology. May be repeated for credit. <i>Prerequisite: GEOL 1403 and consent of instructor.</i>	1:0:3
3102	Historical Geology Lab Instruction Advanced laboratory techniques in historical geology. May be repeated for credit. <i>Prerequisite: GEOL 1404 and consent of instructor.</i>	1:0:3
3390	Environmental Geography and Geology The relationship between human activities, geologic resources and processes, and environmental quality. Topics include the consumption of geologic resources and its impact on the environment. The relationship between human populations and geologic hazards. Field trip and special fee required. <i>Prerequisite: GEOL 1403 or 2377</i>	3:3:0

- 3411 Integrated Sciences I** 4:3:3
An integrated approach to understanding the dynamic systems interacting throughout the universe, with special focus on solar system and planetary systems. Emphasis on the lithologic, hydrologic and atmospheric cycles within the context of plate tectonics theory and geologic time. The fossil record, evolution, and global planetary change also will be investigated. Field trip and course fee required.
Prerequisites: PHYS 2411 & CHEM 2411.
- 3420 Structural Geology** 4:3:3
Rock deformation and geologic structures. Field trip and special fee required.
Prerequisite: GEOL 2471.
- 3450 Petrology** 4:3:3
Classification, properties, occurrence and origin of rocks. Macro and micro techniques for the identification of rocks. Field trip and special fee required.
Prerequisite: GEOL 2471.
- 3600 Summer Field Course** 6:5:40
Description of stratigraphic sections, preparation of geologic maps and field reports. Conducted off-campus at various field locations. Special field trip fees required.
Prerequisite: GEOL 3420, 3450, 3460, 4420.
- 4301 Applied Geoscience Seminar** 3:1:4
Faculty-supervised oral presentations and written reports on various geological topics.
Prerequisite: 20 or more hours of Geology is recommended.
- 4301 Optical Mineralogy and Petrography** 3:1:4
Introduction to the use of the polarizing microscope for identification of rock-forming minerals and rock analysis.
Prerequisite: GEOL 2471.
- 4270, 4280 Special Project** 4:A:0
An individual library, laboratory, or field project. To receive credit, an acceptable report is required. May be repeated for credit.
Prerequisite: GEOL 1403, 1404, and 2471 plus consent of instructor.
- 4301 Hydrogeology** 3:3:0
The study of the occurrence, distribution, flow and chemistry of groundwater, including contaminant transport.
Prerequisite: Pre-Calculus or higher mathematics.
- 4301 Petroleum and Subsurface Geology** 3:3:0
The study of the occurrence and distribution of petroleum resources including source, traps, and reservoirs. Subsurface methods and exploration techniques including well-log interpretation and subsurface mapping.
Prerequisite: GEOL 3420 and GEOL 4410.
- 4301 Seismic Data Processing** 3:1:4
Hands-on project-based computer processing of reflection seismic data for oil, environmental, and other subsurface applications.
Prerequisite: GEOL 4330 and Calculus I or higher mathematics.
- 4301 Seismic Data Interpretation** 3:1:4
Hands-on project-based geologic interpretation of reflection seismic data. Includes 2D and 3D interpretation for oil, environmental, and other subsurface applications.
Prerequisite: GEOL 1403 and GEOL 4330.
- 4301 Remote Sensing and GIS** 3:3:0
Remote sensing and global information system (GIS) applications to a variety of scientific topics, including earth science, space science, and biology.
Prerequisite: 8 hours of freshman lab science.
- 4330 Geophysics** 3:3:0
Application of the principles of physics to geologic problems. Use of geophysical techniques in exploration.
Prerequisite: PHYS 1402 or 2426, MATH 2414.
- 4360 Field Geology of Texas** 3:2:20
Geologic history, topography, physiography, structure and mineral deposits of Texas observed on location at classic geologic exposures across Texas and adjacent states. Camping on and hiking across geologic outcrops will be an integral part of this field experience. Field trip and special fee required. May be repeated for credit as field trip locations change.
Prerequisite: GEOL 2471 or permission of instructor.
- 4361 Geochemistry** 3:3:0
Application of chemistry to the solution of geological problems.
Prerequisite: CHEM 1412, GEOL 2471.

4370	Meteorology Composition and processes of the atmosphere. Weather and climate and their effect on human activities. Air pollution and other human induced changes to the atmosphere. <i>Prerequisite: Eight hours of science.</i>	3:3:0
4371	Economic Resources A survey of soil, water, energy, metal, and nonmetal resources of the Earth including their distribution and uses. Geology and Earth Science majors are required to take an additional concurrent laboratory component (GEOL 4101- Economic Resources Lab) to meet degree requirements. Field trip and special fee required. <i>Prerequisite: GEOL 1404 and permission of instructor.</i>	3:3:0
4380	Oceanography Structure, properties and processes of the hydrosphere emphasizing geologic aspects. Role of the seas and oceans in the total environment. <i>Prerequisite: Eight hours of science.</i>	3:3:0
4390	Rocks & Stars A conceptual introduction to space science with emphasis on planetary exploration. Visual programs and guest speakers from NASA and other space research facilities are included. For both non-science and science majors. <i>Prerequisite: Eight hours of science.</i>	3:3:0
4410	Stratigraphy and Sedimentology Fundamental principles of outcrop, subsurface and sequence stratigraphy. Derivation and deposition of sediments, and environmental interpretation of sedimentary strata. <i>Prerequisite: GEOL 1404 and permission of instructor.</i>	4:3:3
4411	Integrated Sciences II This capstone course uses an integrated approach to understanding the systems through which the environment affects humans and conversely, the impact human activities have on the environment. Emphasis on human populations and their impacts on the carbon, nitrogen, hydrologic and atmospheric cycles and how they relate to local and global changes; and natural impacts on human populations through climatic changes and short term meteorologic and geologic events, such as floods, earthquakes, volcanic eruptions and drought. Other topics include energy choices, waste disposal and inappropriate site locations based on environmental settings. Field trip and course fee required. Prerequisites: PHYS 2411, CHEM 2411, BIOL 3411 and GEOL 3411.	4:3:3
4420	Paleontology Principles of paleontologic interpretation including classification, morphologic analysis and identification of invertebrate and vertebrate fossils. Application of paleontology to stratigraphic correlation. Field trip and special fee required. <i>Prerequisite: GEOL 1404 and permission of instructor.</i>	4:3:3

Space Science Courses (SPSC)

1401	Space Science An introduction to the sciences behind robotic and human exploration of space with laboratory.	4:3:2
3301	Microgravity A study of physical, chemical, and biological phenomena under the conditions of reduced gravity. <i>Prerequisite: PHYS 1406 or 2425</i>	3:1:4
3302	Space Transportation Systems Introduction to space transportation systems and their payloads. <i>Prerequisite: PHYS 1406 or 2425</i>	3:3:0
3303	Orbital & Celestial Mechanics The mechanics of the movement of bodies in space under the influence of gravity. <i>Prerequisite: PHYS 1406 or 2425</i>	3:3:0
4301	Special Topics in Space Science An individual library or laboratory project in conference with faculty. With permission of the department chair, student may repeat the course for credit when the area of the study is different. <i>Prerequisite: Permission of instructor and department chair</i>	3:A:0
4302	Space Vacuum Physics The physics of vacuum as applied to phenomena in space. Introduction to production and measurement of vacuum in laboratories on Earth. <i>Prerequisite: PHYS 1407 or 2426</i>	3:1:4
4303	Planetary Materials A study of the chemistry and mineralogy of extraterrestrial materials including moon samples and meteorites. Introduction to the laboratory techniques used to examine these materials. <i>Prerequisite: CHM 1411 or GEO 2471</i>	3:1:4

Department of English and Modern Languages

Department Chair: Joe Nordgren	4 Maes Building, Phone 880-8558
Director of Writing: Jim Sanderson	03 Maes Building, Phone 880-8555
Director of Writing Center: Nancy Staub	208 Maes Building, Phone 880-8571
Director of Lamar Language Institute: Sally Tessler	56 Maes Building, Phone 880-8586
Coordinator of Global Studies Certificate: Kenneth Rivers	25 Maes Building, Phone 880-8595
Coordinator of Secondary Certification: Stephenie Yearwood	01 Maes Building, Phone 880-8562
Professors Emeriti: Barnes, Olson	
Professors: Bradley, Daigrepont, Dodson, Gwynn, Loges, Nordgren, Priest, Rivers, Sanderson, Saur, Sheppard*, Strickland*, Yearwood	
Associate Professors: Bridges, Griffith, Hawkins, Matthis, Stewart, Zani	
Assistant Professors: Castillon, Pace, Oteng	
Instructors: D. Carey, Doiron, Garcia, Needham, Staub, Zarzosa	
Lecturers: K. Bartlett, Brockman, H. Carey, Chen, Haidusek, Heintzelman, Hudler, Cecil Johnson, Cheryl Johnson, G. Johnson, Meaux, Rudholm, Pearce, Smith, Travis, Turk	
*retired, part-time	

The mission of the Department of English, Modern Languages and Philosophy is to provide superior teaching, research and service. The faculty seeks to develop students' literary comprehension, creative and critical thinking, and writing and communicative abilities in a range of diverse intellectual and cultural traditions. The department is committed to fostering sound liberal arts academic experience and preparing graduates to meet the educational, professional and cultural needs of the region and beyond.

The Department of English and Modern Languages emphasizes excellent teaching in a variety of languages and literatures. The Bachelor of Arts and Master of Arts degrees are available in English. Scholarly interests of members of the department include old and middle English, the Renaissance, Shakespeare, eighteenth century studies, English and American romanticism, the Victorian age, contemporary English and American literature, African American literature, and West Indian literature. In addition to the study of English and American literature through courses organized by genre, period, and individual author, the student may explore the history and structure of language and the crafts of both creative and technical writing. The Bachelor of Arts degree is available in both French and Spanish, enabling the student to acquire competence in conversation and composition in these languages as well as familiarity with their literature and culture. The department also offers courses in German; minors in philosophy, French, Spanish, Writing and English; and an ESL all-level supplementary certificate program.

Majors frequently certify for secondary public school teaching in conjunction with earning the Bachelor of Arts degree in English, French or Spanish. However many oth-

ers pursue the degree as part of their liberal arts educational goals and go on to careers in business or government service or to graduate study or law school. A degree in a foreign language is especially valuable for those anticipating foreign service employment in the public or private sector. The English writing concentration as well as modern languages and philosophy can combine with other majors to improve marketability.

The **English** program endeavors to advance the study and appreciation of the English language as a tool for scholarly analysis, criticism, creativity and communication. The program also seeks to help students understand literature as an expression of aesthetic and humanistic values.

Bachelor of Arts – English

The degree of Bachelor of Arts in English combines general requirements, including the Core Curriculum, with its emphasis on ways of knowing, and the more specialized study within the major:

A. **General Requirements:**

Core Curriculum, 48 hours*

***Note:** English majors **must** take COMM 1315, 1360, 2373, or 3310

***Note:** English majors **must** take either ENGL 2310 British Literature before 1800 or ENGL 2320 British Literature after 1800 as their core curriculum sophomore literature requirement. English majors **may not** take ENGL 2326, 2331, 2371, or 2374 to fulfill their core sophomore literature requirement.

B. **Academic Foundations Requirements, 12 hours**

Modern Language (6 hrs beginning & 6 hrs intermediate)*

***Note:** All foreign language hours **must be the same language**; foreign language hours **may not be** used to satisfy core curriculum COMM/ Modern Language option)

C. **Major:** 30 hours beyond the 9-hour core curriculum requirement in English composition and literature, including:

Either ENGL 2310 or 2320 (depending on which used to satisfy core requirement above)

ENGL 3322 American Literature before 1865

ENGL 3324 American Literature after 1865 or ENGL 3392 Advanced African American Literature Survey

ENGL 3326 Advanced Expository Writing

ENGL 3330 World Literature before 1600

ENGL 3332 World Literature after 1600

Three hours Advanced Literature Elective from 3000- or 4000-level courses

Three hours Advanced Literature or Linguistic Elective from 4000-level courses

Six hours Advanced English elective from 4000-level courses

- D. **Minor:** An approved minor of at least 18 semester hours, including **nine** semester hours of advanced courses. Marketable minors in areas such as business or computer science are encouraged. Students and advisers should obtain current information from individual departments about their requirements for minors in their fields.
- E. **Elective Courses, 13 hours**

Teacher Certification – English

To become certified in Texas, students must complete an undergraduate degree, pass state exams in both a subject area and in pedagogy, and must comply with other state requirements. Students wishing to teach English in Texas must choose **either** the teacher certification program for English Language Arts/Reading Grades 4-8 **or** for English Language Arts/Reading Grades 8-12. The Grades 4-8 certification program is offered **only** in the College of Education and Human Development. The Grades 8-12 certification program is offered **only** in the Department of English and Modern Languages.

Students wishing Grades 8-12 certification should major in English and receive a Bachelor of Arts in English with certification. Along with completion of all university core curriculum requirements, English Language Arts/Reading Grades 8-12 certification students must complete 27 additional hours of English courses (see Specific Course Requirements below), 9 hours in academic electives, 18 hours in academic foundations, and all work required in profession pedagogy (including student teaching). These students must also comply with all current departmental/university state exam preparation/remediation policies in order to receive permission to take the English Language Arts/Reading Grades 8-12 state exam.

Course Requirements for Certification English Language Arts and Reading (8-12)

- A. **General Requirements:** Core curriculum requirements for English Language Arts and Reading (8-12) certification students are the **same as for non-certification English majors**.
- B. **Academic Foundations Requirements, 12 hours**
Complete a modern language, either French, German or Spanish, through the intermediate level (six hours beginning 1311, 1312 and six hours intermediate 2311, 2312)
- C. **Certification Course Requirements:**
All students wishing to certify in English, whether as a first or second teaching field, or through a post-baccalaureate (“deficiency plan”) program, must complete the following 30 hours of English course work **beyond** the 9-hour core curriculum English requirement:
- ENGL 2310 British Literature before 1800 or 2320 British Literature after 1800
 - ENGL 3321 Issues in Language and Literature
 - ENGL 3322 American Literature before 1865
 - ENGL 3324 American Literature after 1865 or 3392 Advanced African-American Literature Survey
 - ENGL 3326 Advanced Expository Writing
 - ENGL 3330 World Literature before 1600

- ENGL 3332 World Literature after 1600 (or 3316 Poetic Analysis, 3320 Children's and Adolescent Literature, 3340 Mythology, 3360 The Short Story, or 3370 The Drama)
- ENGL 4310 The Teaching of Writing and Research techniques
- Two 4000-level Advanced Literature Electives

D. Specific Pedagogy Courses (27 hours):

- SPED 2310
- PEDG 3310
- PEDG 3320
- READ 3326
- PEDG 3380
- READ 4310
- PEDG 4380
- PEDG 4620

E. Academic Electives, 9 hours

All students (including those in other fields) **must** be advised in the English department to ensure that they receive up-to-date information about English Language Arts/Reading 8-12 state exam content and test preparation.

Suggested Program of Study

Bachelor of Arts in English – Total Min. Hours: 121

First Year

Fall Semester	Spring Semester
ENGL 1301 3	ENGL 1302 or 1374 3
Beginning Modern Language 1311 3	Beginning Modern Language 1312 3
Mathematics 3	Mathematics 3
Communication 3	PHIL 1370 3
Fine Arts 3	Lab Science 4
15	16

Second Year

Fall Semester	Spring Semester
ENGL 2310 3	ENGL 2320 3
Intermediate Modern Language 2311 3	Intermediate Modern Language 2312 3
HIST 1301 3	HIST 1302 3
Lab Science 4	POLS 2301 3
Social/Behavioral Science 3	Academic Elective..... 3
16	Physical Activity 1
	16

Third Year

Fall Semester	Spring Semester
ENGL 3322 3	ENGL 3324 or 3392 3
ENGL 3330 3	ENGL 3332 3
ENGL 3326 3	Academic Elective 3
Minor 3	Minor 6
POLS 2302 3	
15	15

Fourth Year

Fall Semester	Spring Semester
ENGL 3000 or 4000 Lit. Elective 3	ENGL 4000 Lit./Ling. Elective 3
ENGL 4000 Lit. Elective 3	ENGL 4000 Lit. Elective 3
Minor 6	Minor (adv. 3000 or 4000) 3
Academic Electives 3	Academic Electives 4
15	13

Minor in English (no grade less than a “C”)

A minor in English requires 18 hours above the 9-hour core composition and sophomore literature requirements, with at least 6 hours at the advanced 4000-level.

- **may** include 1 additional sophomore literature course
- **must** include 1 advanced 3000 or 4000-level British literature course
- **must** include 1 advanced 3000 or 4000-level American literature course
- **must** include 1 advanced 3000 or 4000-level Genre or World literature course
- **must** include 2 additional advanced 3000 or 4000-level literature and/or linguistics courses

Minor in Writing (No grade less than “C”)

A minor in writing requires 18 hours **above** 6-hour core curriculum composition requirement, of which 9 hours **must** be chosen from the following advanced level creative, technical, or critical writing courses:

- ENGL 3326 Advanced Expository Writing
- ENGL 3350 Creative Writing: Poetry
- ENGL 3350 Creative Writing: Fiction
- ENGL 4345 Writing Seminar: Poetry
- ENGL 4345 Writing Seminar: Fiction
- ENGL 3310 Technical Report Writing
- ENGL 4355 Editing Technical Communications
- ENGL 4361 Documentation Design

Minor in Philosophy (No grade less than “C”)

Students who wish to minor in philosophy must complete 18 hours of course in philosophy while adhering to the following guidelines:

- PHIL 1370 or PHIL 1360 Philosophy of Knowledge (or approved transfer core curriculum equivalent)
- PHIL 2303 Logic
- PHIL 2306 Ethics
- Nine hours of advanced 3000- or 4000-level Philosophy course work

ESL All Level Supplementary Certificate Program

Prospective teachers of English as a Second Language (ESL) may satisfy the course work requirement for ESL all level supplementary certification in the state of Texas by completing 12 hours of prescribed courses: ENGL 4320, 4321, 4322 and 4323 (or ENGL 4312 when taught as Linguistics rather than Grammar). See the list of English courses for titles and descriptions.

The **modern languages** program strives to promote the study of languages, literature and communication, to develop cultural awareness, and to encourage an appreciation of international values.

Bachelor of Arts – French

The degree of Bachelor of Arts in French combines general requirements, including the Core Curriculum with its emphasis on ways of knowing, and the more specialized study within the major:

- A. **Core curriculum Requirements**, 48 hours*
***Note:** French majors **must** take COMM 1315, 1360, 2373, or 3310
- B. **Academic Foundation Requirements**, 6 hours:
Three additional hours from ENGL 2331, 3330, or 3332
HIST 4310 or HIST 4324
- C. **Major**, 33 hours:
FREN 1311 and 1312 Beginning French I and II
FREN 2311 and 2312: Intermediate French I and II
FREN 3300: French Conversation
FREN 3370: Advanced Grammar and Composition
FREN 3380: French Phonetics
FREN 3390: French Culture and Civilization
Three advanced (3000- or 4000-level) French courses
- D. **Minor**: 18 hours, including at least nine hours of advanced courses.
- E. **Academic Electives**: 16 hours

Minor in French (No grade less than “C”)

Students who wish to minor in French must take 18 hours **beyond** FREN 1311, including the following:

- FREN 1312 Beginning French II
- FREN 2311 Intermediate French I
- FREN 2312 Intermediate French II
- 9 hours Advanced (3000- or 4000-level) French Electives

Teacher Certification – French

Students wishing to certify with French as the primary teaching field should major in the Department of English and Modern Languages and receive a Bachelor of Arts degree in French.

Those receiving the Bachelor of Arts in French with a certificate-secondary take the same core curriculum and departmental foundations outlined in Bachelor of Arts-French and similar “major” studies.

In addition, these students must complete all required courses in professional pedagogy, including student teaching, must comply with all current departmental/university state preparation/remediation policies, and must pass appropriate local and state qualifying examinations.

Suggested Program of Study

Bachelor of Arts in French – Total Min. Hours: 121

First Year

Fall Semester		Spring Semester	
FREN 1311	3	FREN 1312	3
ENGL 1301	3	ENGL 1302 or 1374	3
Mathematics	3	Mathematics	3
Communication	3	PHIL 1370	3
Fine Arts	3	Lab Science	4
	15		16

Second Year

Fall Semester		Spring Semester	
FREN 2311	3	FREN 2312	3
ENGL 2310, 2320, 2371 or 2376	3	ENGL 2331, 3330 or 3332	3
HIST 1301	3	HIST 1302	3
Lab Science	4	POLS 2301	3
Social/Behavioral Science	3	Academic Elective.....	3
	16	Physical Activity	1
			16

Third Year

Fall Semester		Spring Semester	
FREN 3300	3	FREN 3370	3
FREN 3000 or 4000 Elective	3	FREN 3380	3
POLS 2302	3	Minor	6
Minor	3	Academic Elective.....	3
Academic Elective	3		
	15		15

Fourth Year

Fall Semester		Spring Semester	
FREN 3390	3	FREN 3000 or 4000 Elective	3
FREN 3000 or 4000 Elective	3	FREN 4000 Elective	3
Minor	3	Minor	3
Academic Electives	6	Academic Electives	4
	15		13

Bachelor of Arts – Spanish

The degree of Bachelor of Arts in Spanish combines general requirements, including the Core Curriculum with its emphasis on ways of knowing, and the more specialized study within the major:

- A. Core Curriculum Requirements, 48 hours*

***Note:** Spanish majors **must** take COMM 1315, 1360, 2373, or 3310

- B. Academic Foundations Requirements, 15 hours:

Three additional hours selected from ENGL 2331, 3330, or 3332

SPAN 1311 and 1312 Beginning Spanish I and II

SPAN 2311 and 2312 Intermediate Spanish I and II

- C. Major, 27 hours advanced Spanish
 - SPAN 3300: Spanish Conversation
 - SPAN 3310: Advanced Grammar and Composition
 - SPAN 3320: Culture and Civilization of Spain
 - SPAN 3330: Culture and Civilization of Spanish America
 - SPAN 4310: Survey of Spanish Peninsular Literature I
 - SPAN 4320: Survey of Spanish-American Literature I
 - SPAN 4330: Survey of Spanish Peninsular Literature II
 - SPAN 4340: Survey of Spanish-American Literature II
 - SPAN 4380: Special Topics: Advanced Conversation and TOPT preparation
- D. Minor, 24 hours, including at least **nine** hours of advanced courses.
- E. Electives: 13 hours

Teacher Certification – Spanish

Students wishing to certify with Spanish as the primary teaching field should major in the Department of English and Modern Languages and receive a Bachelor of Arts degree in Spanish.

Those receiving the Bachelor of Arts-Spanish with provisional certificate-secondary take the same core curriculum and academic foundation requirements outlined in Bachelor of Arts-Spanish; and the same major requirements (see above), plus the following required course:

SPAN 4370: Special Topics: Issues in Spanish Language and Literature

In addition, these students must complete all required courses in professional pedagogy, including student teaching, must comply with all current departmental/university ExCET preparation/remediation policies, and must pass appropriate local and state qualifying examinations.

For requirements for elementary teacher certification with Spanish specialization, consult the College of Education and Human Development.

Suggested Program of Study

Bachelor of Arts in Spanish – Total Min. Hours: 121

First Year

Fall Semester	Spring Semester
SPAN 1311 3	SPAN 1312 3
ENGL 1301 3	ENGL 1302 or 1374 3
Mathematics 3	Mathematics 3
Communication 3	PHIL 1370 3
Fine Arts 3	Lab Science 4
15	16

Second Year

Fall Semester	Spring Semester
SPAN 2311 3	SPAN 2312 3
ENGL 2310, 2320, 2326, 2371 or 2376 3	ENGL 2331, 3330 or 3332 3
HIST 1301 3	HIST 1302 3
Lab Science 4	POLS 2301 3
Social/Behavioral Science 3	Academic Elective 3
16	Physical Activity 1
	16

Third Year

Fall Semester		Spring Semester	
SPAN 3300	3	SPAN 3320	3
SPAN 3310	3	SPAN 3330	3
POLS 2302	3	Minor	6
Minor	3	Academic Elective.....	3
Academic Elective	3		
	15		15

Fourth Year

Fall Semester		Spring Semester	
SPAN 4310	3	SPAN 4320	3
SPAN 4320	3	SPAN 4380	3
SPAN 4330	3	Minor	3
Minor	3	Academic Electives	4
Academic Elective	3		
	15		13

Minor in Spanish (No grade less than “C”)

Students who wish to minor in Spanish must take 18 hours **above** SPAN 1311, including the following:

- SPAN 1312 Beginning Spanish II
- SPAN 2311 Intermediate Spanish I
- SPAN 2313 Intermediate Spanish II
- SPAN 3300 Spanish Conversation
- SPAN 3310 Advanced Grammar and Composition
- 3 hours Advanced (3000- or 4000-level) Spanish elective

Developmental Writing (DWRT)

0371 Developmental Writing

The improvement of basic composition skills as required by the state’s Success Initiative Plan. The course is a prerequisite to ENGL 1301 for all students who do not pass the writing component of the Texas Higher Education Assessment (THEA) exam; students must enroll in developmental writing until they pass the course with a grade of C or better or pass their retake of the writing component of the THEA exam. The course neither satisfies general degree requirements for freshman English nor counts toward graduation hours. However, a student’s final grade in the course is both computed into the student’s GPA and recorded on the student’s official transcript.

English Courses (ENGL)

1301 Composition I 3:3:0

Basic forms of expository writing. Frequent themes. Collateral reading in articles and essays of a factual and informative type. This course is prerequisite to ENGL 1302 and 1374.

(NOTE: ENGL 1301 and one other course from ENGL 1302 or 1374 will satisfy the general degree requirement in composition. A student may receive credit for only one such course in a semester.)

1302 Composition II 3:3:0

Forms of expository and analytical writing. Topics for composition suggested from wide reading in at least two of the three genres: prose fiction, poetry, and drama. Research paper required.

Prerequisite: ENGL 1301.

(NOTE: ENGL 1301 and one other course from ENGL 1302 or 1374 will satisfy the general degree requirement in composition. A student may receive credit for only one such course in a semester.)

- 1374 Composition** **3:3:0**
Forms of expository and analytical writing. Topics for composition suggested from a wide survey of various communications media: films, tapes, radio, television, periodicals, books, etc. Requires attendance at specific instructor-specified events in addition to class attendance. Research paper required.
Prerequisite: ENGL 1301.
(NOTE: ENGL 1301 and one other course from ENGL 1302 or 1374 will satisfy the general degree requirement in composition. A student may receive credit for only one such course in a semester.)
- 1360 Honors Composition and Rhetoric** **3:3:0**
An accelerated program for those exceptionally well prepared at time of enrollment. Extensive writing; introduction to literary genres. Research paper required.
Prerequisite: Admission to ENGL 1360 is earned in one of three ways: a score of 3 on the AP test, a score of 670 or better on the SAT verbal test, or a combined score of 1170 or better on the SAT verbal and the English Achievement tests. See the department chair for further information.
ENGL 1360 is offered in fall semesters only.
- 1361 Honors Composition and Rhetoric II** **3:3:0**
An accelerated study of writing, literature, and research for honors program students.
Prerequisite: ENGL 1360 with grade of C or better.
- 2310 British Literature before 1800** **3:3:0**
The development of British literature from its Anglo-Saxon origins through the Enlightenment. Study of major works representative of various epochs and genres. Study of history of the language.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or 1360 and 1361
- 2320 British Literature after 1800** **3:3:0**
The development of British literature from 1800 to the present. Study of major works representative of various periods and genres. Study of history of the language.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or 1360 and 1361
- 2322 British Literature (non-majors)** **3:3:0**
The study of six-to-ten major works of British literature dating from its Anglo-Saxon origins to the present.
Prerequisites: ENGL-1301 and either ENGL-1302 or 1374; or 1360 and 1361
- 2326 American Literature** **3:3:0**
Six-to-ten major works of American literature, including both the 19th and 20th centuries.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or ENGL 1360 and 1361.
- 2331 World Literature** **3:3:0**
Six-to-ten major monuments of world literature, from classical antiquity to the present century.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or ENGL 1360 and 1361.
- 2360 Honors Sophomore Literature** **3:3:0**
Major works of British and World Literature from classical antiquity to the present century, designed especially for honors students.
Prerequisites: ENGL 1360 and 1361.
- 2370 Introduction to Professional Communication** **3:3:0**
Forms of informative and persuasive communication (including letters, memos, brief reports, presentations, and interviews) commonly employed in the professional world. (CC No. 2311)
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or ENGL 1360 and 1361.
- 2371 Masterworks of Asian Literature** **3:3:0**
Six-to-ten major works of Asian literature, including writers from China, Japan and Vietnam.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or ENGL 1360 and 1361.
- 2376 African-American Literature** **3:3:0**
Significant contributions to American literature from Colonial times to the present.
Prerequisites: ENGL 1301 and either ENGL 1302 or 1374; or ENGL 1360 and 1361.

Prerequisite: 3000- and 4000-level English Courses (ENGL)

Successful completion of Freshman Composition (6 hours) and Sophomore Literature (3 hours) core curriculum components required for enrollment in all 3000- and 4000-level courses.

- 3310 Technical Report Writing** **3:3:0**
Supervised preparation of technical and scientific reports according to standard usage recommended by professional scientific and engineering societies.
- 3316 Poetic Analysis** **3:3:0**
Forms and techniques and the critical evaluation of poetry.

3320	Children's and Adolescent Literature Literature about or for children and adolescents and the special features and concerns of the genre. May be taken for credit more than once if the topic varies.	3:3:0
3321	Issues in Language and Literature An overview of the discipline of English treating both theoretical and practical questions related to grammar, composition, and literature. Students are encouraged to begin advanced-level work before enrolling in this course.	3:3:0
3322	American Literature Before 1865 The development of American literature from the era of exploration and colonization through the Romantic period. Selection representative of each epoch and various genres and themes of American literature.	3:3:0
3324	American Literature After 1865 The development of American literature from the era of Realism to the present. Selection representative of the various literary movements, genres, and themes of modern American literature.	3:3:0
3326	Advanced Expository Writing Focus on developing skills in literary analysis and critical essays. Attention to MLA documentation, style and grammar.	3:3:0
3327	Advanced Argumentation Survey of different styles of argumentation from the classical era to the present. This is a writing intensive course that emphasizes critical thinking and sensitivity to discourse and rhetorical strategies within the discipline.	3:3:0
3330	World Literature Before 1600 Survey of major works of world literature to 1600. Includes works from a variety of western and non-western cultures in a variety of genres.	3:3:0
3332	World Literature After 1600 Survey of major works of world literature since 1600. Includes works from a variety of western and non-western cultures in a variety of genres.	3:3:0
3340	Mythology Mythologies of the ancient Greeks, Romans, and Norse peoples and other cultures.	3:3:0
3350	Creative Writing A workshop approach to the writing of poetry, fiction and drama. May be taken for credit more than once when the genre focus varies.	3:3:0
3360	The Short Story The technique of the short story; its historical development; study and analysis of great short stories.	3:3:0
3370	The Drama The historical development of the drama from Aeschylus to the present. Intensive study of selected plays.	3:3:0
3380	Studies in the British Novel The tradition of the British novel, eighteenth century to the present.	3:3:0
3390	American Novel History, growth and technique of the American novel.	3:3:0
3392	Advanced African-American Literature Survey Exploring literary form through the study of selected African American writers in order to understand the African American search for identity.	3:3:0
4300	History of the English Language Theory and nature of language. Studies in the growth of English and American forms.	3:3:0
4305	Writing in the Elementary Schools Introduction to principles and practices of writing instruction for elementary (EC-4) teachers including writing process, modes of organization, forms, grammar and assessment.	3:3:0
4310	The Teaching of Writing and Research Techniques An introduction to major theories of composition, to research in the teaching of composition and to pedagogical techniques for teaching writing.	3:3:0
4312	Studies in Language and Linguistics 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.	3:3:0
4314	Studies in Critical Theory Advanced study of the relationship between form and content in various modes of media, discourse, and criticism. Emphasis on major figures and methodology in contemporary literary theory.	3:3:0
4315	Studies in Women's Literature Poetry, prose, and/or drama by women from classical times to the present. May be taken for credit more than once if the topic varies.	3:3:0

4316	Studies in Victorian Literature Poetry and prose of the Victorian period. May be taken for credit more than once if the topic varies.	3:3:0
4317	Modern Drama Dramatic trends and representative plays from Ibsen to the present.	3:3:0
4318	Modern Poetry Poetic developments in England and America with emphasis on representative poets from Hardy to the present.	3:3:0
4319	Modern Fiction Prose fiction representative of modern ideas and trends, with emphasis on English and Continental authors.	3:3:0
4320	The Teaching of English as a Second Language Techniques for teaching basic English skills and literature to non-native speakers. Socio-cultural aspects of second language learning.	3:3:0
4321	Cultural Foundations of ESL Cultural and historical foundations of ESL teaching, types of programs, advocacy, cultural diversity, teaching diverse learners.	3:3:0
4322	Language Foundations of ESL Principles of second language acquisition, structure of English for ESL learners, patterns of oral and written discourse.	3:3:0
4323	Introduction to Linguistics Background in the nature of language and linguistic changes as a basis for describing and comparing language systems: focuses on a description of the phonological, morphological and syntactic features of English in contrast to features of other languages. <i>(Note: Doctoral students in Speech and Hearing may enroll in ENGL 5320, 5321, 5322 and 5323 for doctoral credit as ENGL 6320, 6321, 6322 and 6323, provided they complete additional requirements appropriate to the doctoral level of study.)</i>	3:3:0
4324	Studies in 16th Century Literature Poetry, prose and drama of the age. May be taken for credit more than once if the topic varies.	3:3:0
4326	The American Renaissance: 1820-1860 Major authors of period from Poe to Melville.	3:3:0
4327	The Development of American Realism: 1860-1900 Major authors of the period from Whitman to Norris.	3:3:0
4328	Early American Literature Significant writers from the beginning of Colonial America to 1828.	3:3:0
4329	Modern American Literature Major American writers of the 20th century.	3:3:0
4333	Studies in a Particular Author Major writer such as Chaucer, Milton, Hawthorne, Faulkner. May be taken for credit more than once when the topic varies.	3:3:0
4334	Critical Studies in Literature A particular genre or theme in comparative literature or criticism. May be taken more than once for credit when the topic varies.	3:3:0
4336	Directed Studies Study in American literature in an area of mutual interest. May be taken for credit more than once if topic varies. <i>Prerequisite: Junior standing.</i>	3:3:0
4340	Shakespeare Selected major plays. May be taken for credit more than once if the topic varies.	3:3:0
4345	Writing Seminar Intensive study in writing, focusing on specific topics, with either a technical or creative emphasis. May be taken more than once for credit if the topic varies. <i>Prerequisite: ENGL 3350 or permission of the instructor (for any creative writing seminar).</i>	3:3:0
4346	Studies in Rhetoric Advanced study of rhetorical and discourse analysis of speeches and texts. May be taken for credit more than once if the topic varies.	3:3:0
4347	Multimedia Writing Theories of rhetoric and composition related to writing for the web and producing multimedia genres. Explores the history of writing technologies as well as how these impact texts and the writing process.	3:3:0
4351	Survey of 17th Century Literature Poetry, prose and drama of the period 1600-1660. May be taken for credit more than once if the topic varies.	3:3:0

4355	Editing Technical Communications Editing technical communications for clarity, conciseness, and form. Emphasis on affective communications within and between organizations and organizational levels including reports, proposals, manuals, memoranda, and news releases. <i>Prerequisite: Either ENGL 2301, 3310, 4326, or 4345 (when technically oriented) or permission of the instructor.</i>	3:3:0
4361	Documentation Design A technical writing course that focuses on preparing, writing and documenting instructional information.	3:3:0
4365	Internship Opportunity to work in “real world” work setting in activities related to professional communication and technical writing. <i>Prerequisites: At least two courses from ENGL 2301, 3310, 4355.</i>	3:3:0
4381	Studies in 18th Century Literature Poetry, prose and drama of the period 1660-1800. May be taken for credit more than once if the topic varies.	3:3:0
4392	Studies in Romantic Literature Poetry, prose and drama of the Romantic period. May be taken for credit more than once if the topic varies.	3:3:0

Philosophy Courses (PHIL)

The **philosophy** program seeks to awaken in students the spirit of critical thinking and to help students understand the philosophical roots of civilization and assume active roles as citizens in our democracy. Philosophy also serves an integrative function at Lamar University because of its centrality to the university’s “Ways of Knowing” core curriculum.

1360	Honors Philosophy of Knowledge Satisfies core curriculum philosophy of knowledge requirement.	3:3:0
1370	Philosophy of Knowledge A survey of major knowledge systems with an emphasis on the scientific and humanistic methods of inquiry.	3:3:0
2303	Logic Nature and methods of correct reasoning; deductive and inductive proof; logical fallacies. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0
2306	Ethics A historical examination of theories and principles of social and personal conduct ranging from Plato and Aristotle to Mill and Nietzsche. Applications to current issues. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0
3360	Philosophy of Religion Analyzes basic assumptions and practices of the Western religious tradition, including religious experience, mythographies, the problem of evil, proofs for the existence of God, mysticism. May comparatively survey other great religious traditions, including Buddhism, Islam, and Hinduism. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0
4320	Philosophy of Science A survey and analysis of scientific developments influenced by philosophy; scientific methodologies investigated. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0
4330	Philosophy of Art Deals with the issue of creativity in the arts and sciences. Survey of major aesthetic theories. Students pursue and present individual projects. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0
4340	Special Topics Study in specific topic in philosophy. May be taken for credit more than once when topic changes. <i>Prerequisite: Successful completion of PHIL 1370, 1360, or approved core transfer equivalent.</i>	3:3:0

Religion Courses (RELI)

1310	Survey of Western Religions Introductory survey of Western religious traditions from ancient Mesopotamia and Egypt to contemporary Christianity, Judaism, and Islam.	3:3:0
1320	Survey of Eastern Religions Introductory survey of Eastern religious traditions from India and Japan, including Hinduism, Buddhism, Confucianism, Taoism, and Shintoism.	3:3:0

French Courses (FREN)

1311	Beginning French I Language course for beginners. Includes grammar, pronunciation, conversation, reading, dictation and written exercises, and language lab practice. (CC No. 2311)	3:3:0
1312	Beginning French II Continuation of material in FREN 1311. (CC No. 2312) <i>Prerequisite: FREN 1311 or equivalent determined by examination.</i>	3:3:0
2311	Intermediate French I Review of grammar, reading, composition, conversation, including language lab practice. <i>Prerequisite: FREN 1312 or equivalent.</i>	3:3:0
2312	Intermediate French II <i>Prerequisite: FREN 2311 or equivalent.</i>	3:3:0
3300	French Conversation Improvement in oral fluency through discussion of texts and oral reports. Required of all majors. (This course may not be substituted for FREN 2312 to meet the language requirement for the Bachelor of Arts degree.) May be repeated for credit with approval of department. <i>Prerequisite: FREN 2311 or equivalent.</i>	3:3:0
3350	French Literature Survey I An overview of French literature, authors and literary movements from the Middle Ages through the 18th century. May be repeated for credit when the texts vary. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
3360	French Literature Survey II An overview of French literature, authors, and literary movements since 1800. May be repeated for credit when the texts vary. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
3370	Advanced Grammar and Composition French grammar, with extensive written composition. Secondary stress on pronunciation. May be repeated for credit with approval of the department chair. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
3380	French Phonetics The French sound system. Laboratory exercises to improve pronunciation. May be repeated for credit with approval of the department chair. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
3390	French Culture and Civilization French civilization with readings and discussion of topics such as French history, politics, education, art, fashion, cuisine, technology, work and leisure. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
4310	French Theater Selected French plays, usually to include tragedy, comedy and drama of various eras, but may also concentrate on a single playwright, period or special topic. May be repeated for credit when the topic varies. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0
4330	Special Topics Study in a specific topic in French language and/or literature. May be taken more than once for credit when topic varies.	3:3:0
4390	French Novel Major French novels, usually to cover writers and works from various eras, but may also concentrate on a single novelist, period or special topic. May be repeated for credit when the topic varies. <i>Prerequisite: FREN 2312 or equivalent.</i>	3:3:0

German Courses (GERM)

1311	Beginning German I Pronunciation, conversation, reading, dictation, grammar. Use of tapes.	3:3:0
1312	Beginning German II Continuation of material in GERM 1311. <i>Prerequisite: GERM 1311 or equivalent determined by examination.</i>	3:3:0
2311	Intermediate German I Review of grammar, reading, composition and conversation. Use of tapes. <i>Prerequisite: GERM 1312 or equivalent.</i>	3:3:0
2312	Intermediate German II Continuation of material in GERM 2311. <i>Prerequisite: GERM 2311 or equivalent.</i>	3:3:0

Spanish Courses (SPAN)

1311	Beginning Spanish I Pronunciation, conversation, reading, dictation, grammar, including language lab practice. (CC No. 2311)	3:3:0
1312	Beginning Spanish II Continuation of material in SPAN 1311. (CC No. 2312) <i>Prerequisite: SPAN 1311 or equivalent determined by examination.</i>	3:3:0
2300	International Study Students will be offered an opportunity to experience and apply real-world language and culture in a natural setting. The experience will include enrolling in Spanish courses, living with a Spanish family, participating in cultural activities organized by the host institution, and making field trips to historical and cultural monuments.	3:3:0
2311	Intermediate Spanish I Review of grammar, reading, composition, conversation. Language lab practice. <i>Prerequisite: SPAN 1312 or equivalent.</i>	3:3:0
2312	Intermediate Spanish II <i>Prerequisite: SPAN 2311 or equivalent.</i>	3:3:0
3300	Spanish Conversation Required of all majors. <i>Prerequisite: SPAN 2311 or equivalent.</i> <i>(NOTE: This course may not be substituted for SPAN 2312 to meet the language requirements for the Bachelor of Arts degree.)</i>	3:3:0
3310	Advanced Grammar and Composition Vocabulary building, intensive review of grammar as needed for sentence structure. The development of the paragraph in written composition. Frequent written reports.	3:3:0
3320	Culture and Civilization of Spain Study of the geography, history, government, art, economic resources and psychology of Spain. Lectures, readings, oral and written reports.	3:3:0
3325	Culture and Civilization of Latin America Study of the geography, history, government, art, economic resources and psychology of the Spanish-speaking countries of Latin America. Lectures, readings, oral and written reports.	3:3:0
4310	Survey of Spanish-American Literature I Hispanic America's outstanding writers and their works up to the modernista movement. Lectures, readings, oral and written reports.	3:3:0
4320	Survey of Spanish-American Literature II Hispanic America's outstanding writers and their works from the modernista movement to the present. Lectures, readings, oral and written reports.	3:3:0
4330	Survey of Spanish Peninsular Literature I Spain's outstanding writers and their works up to the generation of '98. Lectures, readings, oral and written reports. <i>Prerequisite: SPAN 2312 or equivalent.</i>	3:3:0

- 4340 Survey of Spanish Peninsular Literature II** **3:3:0**
Spain's outstanding writers and their works from the generation of '98 up to the present. Lectures, readings, oral and written reports.**4360* Teaching Methods** **3:3:0**
- 4360 Teaching Methods** **3:3:0**
From early Chomsky theories to the most recent second language acquisition theorizing, this course explores a variety of current methods that Spanish teachers can utilize in the classroom setting.
- 4380 Advanced Conversation** **3:3:0**
Strengthen oral proficiency in spoken Spanish and at the same time improve listening and comprehension skills and prepare for the TOPT test.

Chinese Courses (CHIN)

- 1511 Beginning Chinese I** **3:3:0**
As an introduction to Mandarin Chinese, this course is designed to help students begin building their listening, speaking, reading and writing skills in Chinese and to enhance their culture knowledge as related to the language.
- 1512 Beginning Chinese II** **3:3:0**
Continuation of modern Mandarin Chinese for student seeking to learn a greater variety of Chinese expressions and further to explore the culture, customs, and habits of Chinese-speaking people.

Organizations

Organizations such as Circulo Hispano (Spanish Circle), Le Cercle Français (French Circle), and German Union promote interest in other cultures and languages. Both students and community members are involved. Lamar students and faculty hold a Worldfest each spring to publicize the various international groups and activities on the campus. A chapter of Phi Beta Delta Honor Society for international scholars was established at Lamar in 1992.

English Courses for Non-Native Students (ESL)

Students for whom English is a second language are required to demonstrate English proficiency by passing the TOEFL with a score on the Test of Written English (TWE) that meets the stated university requirement. Those students whose scores fall below the minimum scores required are referred to the Lamar Language Institute for placement in appropriate developmental courses. Registration and fees for these courses are separate from those for degree credit-bearing courses taken in the University. A student placed in developmental courses may not drop the courses.

After the satisfactory level of proficiency is attained, students who must satisfy degree requirements in English may do so by completing the following courses:

Freshman Composition:

- ENGL 1301 and 1302
ENGL 2310 or 2320 or 2326 or 2331 or 2376

Department of History

Department Chair: John W. Storey

Archer 200, Phone 880-8511

Professors: Carroll, Gwin, Storey

Associate Professors: Kelley, Thompson

Assistant Professors: Boone, Bryan, Forret, Mengerink

Lecturers: Atmar, Autrey, Seratt

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

Bachelor of Arts – History Major

The degree of Bachelor of Arts in History will be awarded upon the completion of the following requirements:

A. General Requirements:

See core curriculum, p. 15. In addition, students must complete a foreign language, which substitutes for the communication requirement in the core, and 3 semester hours in literature.

B. Major:

HIST 3321, 3322 - World History — six semester hours.

HIST 1301, 1302 - American History Surveys — six semester hours.

HIST 3390 - Historical Research — three semester hours.

Advanced United States History — six semester hours (4000 level).

Advanced World (Non-United States) History — six semester hours (4000 level).

C. Minor:

An approved minor of at least eighteen semester hours.

D. Electives:

Sufficient approved electives to complete a total of 121 semester hours. Within the 121-semester-hour program there must be a minimum of at least 120 semester hours of courses that may not include physical activity courses, health and wellness courses, and intern program courses.

Minor in History

Students from other disciplines who wish to minor in history must complete 18 semester hours, consisting of 1301 and 1302, either 3321 or 3322, and 9 semester hours of any 4000 level courses. No grade below a “C” will be counted toward the minor.

Teacher Certification – History

Students wishing to secure the Bachelor of Arts degree in history may at the same time complete the curriculum requirements for a provisional certificate—secondary, with a teaching field in history. For information concerning this program, as well as the new social studies composite, the student should consult advisors in the Department of History.

Suggested Program of Study

Bachelor of Arts in History – Total Min. Hours: 120

First Year	
Fall Semester	Spring Semester
HIST 1301 American History I 3	HIST 1302 American History II 3
ENGL 1301 Composition 3	ENGL 1302 Composition 3
MATH 1314 College Algebra 3	MATH ² 3
Elementary Language I ¹ 3	Elementary Language II 3
Social Science ³ 3	PHIL 1370 Philosophy of Knowledge..... 3
PEGA 1	
16	15
Second Year	
Fall Semester	Spring Semester
HIST 3321 Issues in World Culture to 1660 3	HIST 3322 Issues in World Culture since 1660 3
English Literature 3	English Literature 3
Interim Language I 3	Interim Language II 3
Lab Science 4	Lab Science 4
POLS 2301 American Government I 3	POLS 2302 American Government II 3
16	16
Third Year	
Fall Semester	Spring Semester
HIST 3390 History Research 3	History (Advanced World) 3
History (Advanced American) 3	Minor 3
Fine Arts ⁴ 3	Minor 3
Minor 3	Elective 3
Elective 3	Elective 3
15	15
Fourth Year	
Fall Semester	Spring Semester
History (Advanced American) 3	History (Advanced World) 3
Minor 3	Minor 3
Minor 3	Electives..... 6
Electives 6	
15	13

¹ French, Spanish, German or AS2

² Math courses: 1316, 1324, 1325 or any higher level course except 1335 or 1336

³ Social Science courses: ANTH 2346, ANTH 2351, ECON 1301, PSYC 2301 or SOCI 1301

⁴ Fine Arts courses: ARTS 1301, DANC 2304, HUMA 1315, MUSI 1306 or THEA 1310

Graduation requires at least 120 hours, of which 119 must be approved academic hours. At least 30 academic hours must be 3000 or 4000 level. Courses not to be included as part of the 119 hours are physical activity courses, health and wellness courses, music performance courses and intern program courses.

History Courses (HIST)

1301	American History: History of the United States, 1763 to 1877 United States history from the revolutionary period through reconstruction.	3:3:0
1302	American History: History of the United States, 1877 to the Present United States history from the post-reconstruction period to the present.	3:3:0
1361	Honors American History: History of the United States, 1763 to 1877 United States from the revolutionary period through reconstruction, designed especially for honors students. <i>Prerequisite: Departmental approval.</i>	3:3:0
1362	Honors American History: History of the United States, 1877 to the Present United States history from the post-reconstruction period to the present, designed especially for honors students. <i>Prerequisite: Departmental approval.</i>	3:3:0
2301	History of Texas Texas history from the beginning to the present time.	3:3:0
3321	Issues in World Cultures to 1660	
3322	Issues in World Cultures Since 1660	
3301*	Colonial America to c. 1820	
3302*	America from Jackson to c. 1877	
3303*	America from the Gilded Age to c. 1945	
3390	Historical Research Principles and methods of historical research.	3:3:0
4300	Era of the Renaissance and Reformation Western Europe from 1453 to 1610.	3:3:0
4309	The Age of Columbus Examines forces and developments leading to world exploration.	3:3:0
4310	The Old Regime Western Europe from 1610 to 1783.	3:3:0
4311	Colonial America	3:3:0
4314	The American Civil War	3:3:0
4315	Reconstruction and Industrialization: The United States from 1865 to 1898	3:3:0
4316	World Power and Reform: The United States from 1898 to 1920	3:3:0
4318	Classical Civilization Greece and Rome from earliest times to the fall of the Roman Empire in the West.	3:3:0
4319	Medieval Civilization Western Europe and the Mediterranean area from the late Roman period to 1453.	3:3:0
4320	Religion in the American South An overview of the growth and development of religion in the South.	3:3:0
4322	American Thought Since Darwin A survey of American thought since 1859, with emphasis upon the impact of Darwinism.	3:3:0
4323	The Vietnam War Covers America's involvement in southeast Asia since World War II.	3:3:0
4324	The French Revolution and Napoleon Western Europe from 1783 to 1815.	3:3:0
4325	Tudor and Stuart England England from 1485 to 1688.	3:3:0
4326	History of Mexico An overview of Mexico from the Spanish conquest to the Mexican revolution.	3:3:0
4327	Age of Jackson America from c.1815 to c.1845 dealing with the impact of Andrew Jackson.	3:3:0
4328	Victorian England Great Britain from 1815 to 1914.	3:3:0
4330	FDR and the New Deal America from c. 1929 to c. 1945 covering the Great Depression and New Deal.	3:3:0
4335	Topics in History Selected special topics in major areas of history: Course may be repeated for a maximum of six semester hours credit when the topic varies.	3:3:0
4341	World War II A military, political and social history of World War II.	3:3:0

4342	Nazi Germany A military, political, and social history of Nazi Germany.	3:3:0
4349	19th Century Europe Political, economic, and social changes and developments in 19 th Century Europe—c.1815 to 1915.	3:3:0
4350	20th Century Europe Europe since 1914.	3:3:0
4390	Honors Program A tutorial program for honors seniors. Admission by invitation only.	3:A:0

** These courses (3301, 3302, 3303) were developed specifically for teacher certification in the Social Studies Composite and may not be used to satisfy advanced (4000) history requirements in either history degree programs or the history minor.*

Department of Mathematics

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Except for one's native language, mathematics is central to more fields than any other. Whether you study computer science, economics, engineering, science, social sciences or the liberal arts, mathematics is the language for any educated person. The Department of Mathematics offers a full range of courses in applied and pure mathematics, mathematics education for elementary and secondary school certification, and statistics. All departmental courses are taught with the goal of transforming students' thinking and imagination. Core courses are designed to empower mathematics majors to handle situations in industry, graduate school, education or other areas they may choose to pursue. Our professors are passionate about both teaching and research. As a result, mathematics majors not only find teachers who are thoughtful and caring but they also find professors who are active researchers and seek to engage majors in research opportunities and research seminars.

All mathematics degree programs give mathematics majors and minors the flexibility to select courses suited to a variety of interests and career goals. Advising plays an integral role in achieving these objectives. Consequently, all mathematics majors are assigned an advisor to assist with scheduling and career planning throughout their undergraduate years.

The department offers the following B.A., B.S. and ancillary programs:

Bachelor of Arts in Mathematics

Tracks: General, Teacher Certification

Bachelor of Science in Mathematics

Tracks: General, Pure Mathematics, Applied Mathematics, Statistics

Post-Baccalaureate Specialization in Mathematics

Minor in Mathematics

Double (Second) Major in Mathematics

All degrees emphasize traditional mathematics, both as a basic science and as the major tool in solving problems, and include a range of electives tailored to meet the needs of the individual student. Careers such as cryptology, actuarial science, bi-mathematics, mathematical finance and university research are open to our graduates because of a proper selection of courses and research opportunities.

In the twenty-first century, mathematics finds itself in an enviable position. Our culture is discovering the power and the beauty of mathematics. Many exciting areas of mathematics are interdisciplinary. The study of knot theory has found applications in the study of DNA. Number theory, an esoteric study until recent times, finds application in cryptology, a field essential to national security. The young professors who have recently joined the department, along with the department's established faculty, are able to offer possibilities in these new, exciting areas of mathematics.

Suggested Programs of Study

A minor or double major in mathematics can considerably enhance the undergraduate experience for a variety of students, strengthen their resumes, and lead to a more satisfying career. Students are encouraged to seek advice from math faculty early in their decision-making stages. For students who wish to pursue a baccalaureate degree in mathematics, the department offers six tracks. Among these tracks, the Bachelor of Arts in Mathematics General Track allows the maximum flexibility for both the general electives and the mathematics electives, while the language and the minor requirements of this degree ensure a well-rounded education. The Bachelor of Arts Teaching Certification Track is specifically designed for those planning to teach mathematics at the secondary (high school) level. The Bachelor of Science in Mathematics General Track allows maximum flexibility within the mathematics electives. The Pure Mathematics Track is intended for those considering the possibility of attending graduate school in a foundational area of mathematics. The Applied Mathematics Track leads to applications of computation to design, simulation, planning, control, and analysis of scientific, engineering, and medical phenomena. The Statistics Track leads to careers in data analysis and quality control related to engineering, economics, marketing, pharmaceuticals, and ecology. Students with any of the B.S. or B.A. degrees may choose from specialized graduate programs or careers in government, teaching, or industrial job markets.

Developmental Placement

Students who **score less than 200** on the mathematics portion of the THEA must begin in **DMTH 0071**. Students who score from **200 to 239** must begin in **DMTH 0371**. Students who score from **240 to 269** must begin in **DMTH 0372**. Students scoring **at least 270** should not start in a DMTH course, but should choose the appropriate **MATH** course.

Mathematics Teaching Certification

Students who wish to earn a provisional secondary teaching certificate, with a teaching field in mathematics, should consult the College of Education section of this bulletin for details concerning certification.

Post-Baccalaureate Specialization in Mathematics

This program is available to students who already have a baccalaureate degree in a field other than mathematics but wish to obtain teacher certification in mathematics. The student must complete the following courses for the Post-Baccalaureate Specialization in Mathematics:

MATH 2305 – Discrete Mathematics

MATH 2318 – Linear Algebra I

MATH 2413 – Calculus and Analytical Geometry I

MATH 2414 – Calculus and Analytical Geometry II

MATH 3322 – Introduction to Advanced Mathematics

MATH 3330 – Higher Geometry

MATH 3350 – Abstract Algebra I

MATH 3370 – Introduction to the Theory of Statistical Inference

MATH 3380 – Analysis I

Minor in Mathematics

A minor in mathematics requires 21 hours of mathematics from Division I and Division II courses as listed below, including at least nine hours from Division II.

Division I Courses: MATH 2305, 2318, 2413 (or 2460), 2414, 2415.

Division II Courses: MATH 3225, 3301, 3321, above 3321 but excluding 4321.

Students are encouraged to contact the Mathematics Department early to design plans that suits their interests. A wide variety of choices is available. Examples of possible Minor plans and their areas of concentration are as follows:

Pure math focus: MATH 2413, 2414, 3322, 3350, 3380, and 2415 or two courses from 2318, 3351, 3381, 4310, 4330, 4340.

Applied math focus: MATH 2413, 2414, 2415, 3301, 3370, and one course from 4302, 4310, or 4315.

Statistics focus: MATH 2413, 2414, 3225, 3370, and three courses from 4313, 4317, 4319, 4380.

Double (Second) Major in Mathematics

Students pursuing a baccalaureate degree in a mathematically compatible field may opt to pursue a double major in mathematics. A double major in mathematics requires 30 hours of mathematics (23 hours of core courses and 7 hours from Math 2415 or Mathematics Electives Courses as listed below). In addition, students must satisfy the 3 hours of computer science requirement.

Minimum Degree Requirements

Philosophy of Knowledge Core Curriculum Requirement

See the General Information section of the General Catalog for the requirements related to courses in philosophy, humanities, composition, literature, communication, history, fine arts, political science, social science, and physical education. The total number of hours required is 48, of which six hours is in mathematics and eight hours is in lab science as listed below. For the Bachelor of Arts in Mathematics (General or Teacher Certification Track), the communication requirement is to be filled by Spanish 1311, German 1311, French 1311, or American Sign Language CMDS 2375. Certain elementary math courses that satisfy the Knowledge Core Requirement do not count toward a degree in mathematics.

Minimum Grade Requirement

Students must earn a grade of C or better in each mathematics course for it to be counted toward any degree or credential offered by the department. The same requirement is applied to any transfer credit. The prerequisites of any course or external exam must also be satisfied with a grade of C or better. The terms "completion", "satisfactory completion", "to have credit for", and similar expressions refer to a minimum grade of C. Students must maintain a grade point average of 2.00 or better within each component (major, minor, concentration, second major, or specialization) of their degree plans.

Lab Science (Lab Sci) Requirement

Students graduating with a baccalaureate degree in mathematics are required to take 8 hours of sequential lab science courses chosen from BIOL 1406 and 1407, CHEM 1411 and 1412, GEOL 1403 and 1404, or PHYS 2425 and 2426. This requirement is listed as Lab Sci in the standard curriculum for B.S. and B.A. degree programs below.

Computer Science (COSC) Requirement

Students graduating with a baccalaureate degree or a second major in mathematics are required to take at least one programming course chosen from COSC 1336, COSC 1337, or COSC 3306. This requirement is listed as COSC in the standard curriculum for B.S. and B.A. degree programs. COSC 3306 is recommended for majors who have considerable programming experience. COSC 1336 requires COSC 1173 as a co-requisite. Students who pursue a Bachelor of Science in Applied Mathematics are encouraged to consider more advanced computer programming courses. Students who are considering mathematics courses with a programming component (such as MATH 3321 or 4315) are encouraged to contact the instructor of the course in advance.

Minor or Concentration Requirement

Students who pursue a Bachelor of Arts in Mathematics must choose a minor department in consultation with their advisor. Those who pursue Teacher Certification will have pedagogy as their minor. Students who pursue a B.S. degree may choose a coherent group of courses from several departments as their concentration or professional area in consultation with their advisor. A minor or concentration requires a minimum of 21 hours, of which 9 hours must be at junior or senior level.

General Electives Requirement

Students who pursue a B.S. degree have 12 hours of general electives while the students who pursue a B.A. degree have 6 hours of general electives. Students select these courses in consultation with their advisors.

Mathematics Core Requirement

All B.S. and B.A. degrees in mathematics require satisfactory completion of the following courses (23 hours). Of these, 6 hours may be counted toward the Philosophy of Knowledge Core Curriculum Requirement, while the other 17 hours are noted as Mathematics Core Requirement in each degree plan.

Math 2318 – Linear Algebra I

Math 2413 – Calculus I

Math 2414 – Calculus II

Math 3322 – Introduction to Advanced Mathematics

Math 3350 – Abstract Algebra I

Math 3370 – Introduction to the Theory of Statistical Inference

Math 3380 – Analysis I

Mathematics Electives Requirement

Students who pursue a degree in mathematics have a certain number of hours of mathematics electives from specified areas depending on their chosen track. The approved electives are listed below.

- B.A. (General Track) has nine hours of math electives from any area.
B.A. (Teacher Certification) has no math electives.
B.S. (General Track) has 15 hours of math electives from any area.
B.S. (Pure Math Track) has three hours of math electives from any area.
B.S. (Applied Math Track) has 18 hours of math electives from applied math or statistics areas, 4310 or 4330. At least nine hours must be in applied math area.
B.S. (Statistics Track) has 12 hours of math electives, at least one course from 4313 or 4319 and the remaining from applied math area, 2415 or 4330.

The following is the list of approved electives for B.S., B.A. (General Track) and Double/Second Major in mathematics.

General Area:

MATH 4131, 4231 or 4331—Special Problems

Pure Math Area:

MATH 3330 – Higher Geometry

MATH 3351 – Abstract Algebra II

MATH 3381 – Analysis II

MATH 4310 – Complex Variables

MATH 4330 – Advanced Linear Algebra

MATH 4340 – Topology

MATH 4360 – Computational Modern Algebra

Applied Math Area:

MATH 3301 – Differential Equations

MATH 3321 – Discrete Structures

MATH 4302 – Partial Differential Equations

MATH 4315 – Numerical Analysis

MATH 4316 – Numerical Methods

Statistics Area:

MATH 3225* – Statistical Analysis with SPSS or MINITAB

MATH 4313* – Introduction to Linear Regression Analysis

MATH 4317* – Introduction to Probability Theory and Stochastic Processes

MATH 4319* – Introduction to Design of Experiments

MATH 4380 – Theory of Statistical Inference

* Pending approval by the Texas Higher Education Coordinating Board

National Exam Requirement

Students graduating with a baccalaureate degree or a double major in mathematics are required to take a national standardized examination. The exam currently being used is the Educational Testing Service and College Board of Achievement Test. The test results should be sent directly from the testing service to the Mathematics Department of Lamar University. Students must take the exam during the semester in which they complete the Mathematics Core Requirement.

Bachelor of Arts (General Track) Requirements

- 48 hours – Philosophy of Knowledge Core Requirement
- 9 hours – Additional modern language requirements (through 2312)
- 3 hours – A second literature course
- 17 hours – Mathematics Core Requirement
- 5 hours – Additional math requirement
 - Math 2415 – Calculus III
 - Math 4131 – Research Seminar
- 9 hours – Mathematics Electives Requirement
- 3 hours – COSC Requirement
- 21 hours – Minor Requirement
- 6 hours – General Electives Requirement
- 121 hours – Total

Bachelor of Arts (Teacher Certification Track) Requirements

- 48 hours – Philosophy of Knowledge Core Requirement
- 9 hours – Additional modern language requirements (through 2312)
- 3 hours – A second literature course
- 17 hours – Mathematics Core Requirement
- 15 hours – Additional math requirement
 - Math 2305 – Discrete Mathematics
 - Math 3300 – History of Mathematics
 - Math 3317 – Problem Solving
 - Math 3330 – Higher Geometry
 - Math 4321 – Topics in Secondary Mathematics
- 3 hours – COSC Requirement
- 24 hours – Teacher Certification Requirement
 - PEDG 2310, PEDG 3310, PEDG 3320, READ 3326,
 - PEDG 3380, PEDG 4380, PEDG 4620
- 6 hours – General Electives Requirement
- 125 hours – Total

Bachelor of Science (General Track) Requirements

- 48 hours – Philosophy of Knowledge Core Requirement
- 17 hours – Mathematics Core Requirement
- 5 hours – Additional math requirement
 - Math 2415 – Calculus III
 - Math 4131 – Research Seminar
- 15 hours – Mathematics Electives Requirement
- 3 hours – COSC Requirement
- 21 hours – Concentration Requirement
- 12 hours – General Electives Requirement
- 121 hours – Total

Bachelor of Science (Pure Math Track) Suggested Course Selections

- 48 hours – Philosophy of Knowledge Core Requirement
- 17 hours – Mathematics Core Requirement
- 20 hours – Additional math requirement
 - Math 2415 – Calculus III
 - Math 3301 – Differential Equations
 - Math 4310 – Complex Variables
 - Math 4340 – Topology
 - Math 4330 – Advanced Linear Algebra
 - Math 3381 – Analysis II
 - Math 4131 – Research Seminar
- 3 hours – Mathematics Electives Requirement (any area)
- 3 hours – COSC Requirement
- 21 hours – Concentration Requirement
- 12 hours – General Electives Requirement
- 124 hours – Total

Bachelor of Science (Applied Math Track) Suggested Course Selections

- 48 hours – Philosophy of Knowledge Core Requirement
- 17 hours – Mathematics Core Requirement
- 5 hours – Additional math requirement
 - Math 2415 – Calculus III
 - Math 4131 – Research Seminar
- 9 hours – Mathematics Electives Requirement (from Applied Math area)
- 9 hours – Mathematics Electives Requirement (from Applied Math or Statistics area or 4310 or 4330)
- 3 hours – COSC Requirement
- 21 hours – Concentration Requirement
- 12 hours – General Electives Requirement
- 124 hours – Total

Bachelor of Science (Statistics Track) Suggested Course Selections

- 48 hours – Philosophy of Knowledge Core Requirement
- 17 hours – Mathematics Core Requirement
- 11 hours – Additional math requirement
 - Math 3225 – Statistical Analysis with SPSS or MINITAB
 - Math 4315 – Numerical Analysis
 - Math 4317 – Introduction to Probability Theory and Stochastic Processes
 - Math 4380 – Theory of Statistical Inference

12 hours – Mathematics Electives Requirement from the following list (must include 4313 or 4319 or both):

- Math 2415 – Calculus III
- Math 4313 – Introduction to Regression Analysis
- Math 4319 – Introduction to Design of Experiments
- Math 4330 – Advanced Linear Algebra
- Any Mathematics Elective from Applied Math area

- 3 hours – COSC Requirement
- 21 hours – Concentration Requirement
- 12 hours – General Electives Requirement
- 124 hours – Total

Standard Curricula for B.A. and B.S. Degree Programs

Bachelor of Arts in Mathematics General Track—Total Min. Hours: 121

First Year

Fall Semester		Spring Semester	
MATH 2413	4	MATH 2414	4
ENGL 1301	3	ENGL 1302	3
HIST 1301	3	HIST 1302	3
COMM (Modern Language 1311)	3	Modern Language 1312	3
PEGA	1	PHIL 1370	3
	14		16

Second Year

Fall Semester		Spring Semester	
MATH 2415	4	MATH 3322	3
MATH 2318	3	Lab Science	3
Lab Science	4	English Literature	4
English Literature	3	Modern Language 2312	3
Modern Language 2311	3	Minor elective	3
	17		16

Third Year

Fall Semester		Spring Semester	
MATH 3350	3	Math elective*	3
MATH 3380	3	Math elective*	3
COSC	3	Social Science	3
Minor elective	3	Fine Arts	3
Elective	3	Minor elective	3
	15		15

Fourth Year

Fall Semester	Spring Semester
MATH 3370 3	Math elective* 3
POLS 2301 3	POLS 2302 3
Minor elective 3	Minor elective 3
Minor elective 3	Minor elective 3
MATH 4131 1	Elective 3
<u>13</u>	<u>15</u>
Total Number of Hours 121	

* Chosen from MATH 3225, 3301, 3321, 3330, 3351, 3381, 4302, 4310, 4313, 4315, 4316, 4317, 4319, 4330, 4340, 4360, 4380, 4x31

**Bachelor of Arts in Mathematics
Teacher Certification Track – Total Min. Hours: 125**

First Year

Fall Semester	Spring Semester
MATH 2413 4	MATH 2414 4
ENGL 1301 3	MATH 2305 3
Lab Science 4	Lab Science 4
COMM (Modern Language 1311) 3	Modern Language 1312 3
PEGA 1	ENGL 1302 3
<u>15</u>	<u>17</u>

Second Year

Fall Semester	Spring Semester
MATH 2318 3	Fine Arts 3
MATH 3317 3	MATH 3322 3
HIST 1301 3	HIST 1302 3
English Literature 3	English Literature 3
PHIL 1370 3	Modern Language 2312 3
Modern Language 2311 3	PEDG 2310 3
<u>18</u>	<u>18</u>

Third Year

Fall Semester	Spring Semester
MATH 3350 3	MATH 3300 3
MATH 3380 3	Social Science 3
PEDG 3310 3	POLS 2302 3
PEDG 3320 3	READ 3326 3
POLS 2301 3	Elective 3
Elective 3	COSC 3
<u>18</u>	<u>18</u>

Fourth Year

Fall Semester	Spring Semester
MATH 3370 3	PEDG 4620 6
MATH 4321 3	
PEDG 3380 3	
PEDG 4380 3	
MATH 3330 3	
<u>15</u>	<u>6</u>

**Bachelor of Science in Mathematics
General Track – Total Min. Hours: 121**

First Year

Fall Semester	Spring Semester
MATH 2413 4	MATH 2414 4
ENGL 1301 3	ENGL 1302 3
PHIL 1370 3	HIST 1302 3
HIST 1301 3	Fine Arts 3
PEGA 1	Communication 3
14	16

Second Year

Fall Semester	Spring Semester
MATH 2415 4	MATH 3322 3
MATH 2318 3	Math elective* 3
Lab Science 4	Lab Science 4
English Literature 3	POLS 2302 3
POLS 2301 3	Minor elective 3
17	16

Third Year

Fall Semester	Spring Semester
MATH 3350 3	Math elective* 3
MATH 3380 3	Math elective* 3
COSC 3	Social Science 3
Minor elective 3	Elective 3
Elective 3	Minor elective 3
15	15

Fourth Year

Fall Semester	Spring Semester
MATH 3370 3	Math elective* 3
Minor elective 3	Math elective* 3
Minor elective 3	Minor elective 3
Elective 3	Minor elective 3
MATH 4131 1	Elective 3
13	15

* Chosen from MATH 3225, 3301, 3321, 3330, 3351, 3381, 4302, 4310, 4313, 4315, 4316, 4317, 4319, 4330, 4340, 4360, 4380

**Bachelor of Science in Mathematics
Pure Mathematics Track – Total Min. Hours: 124**

First Year

Fall Semester	Spring Semester
MATH 2413 4	MATH 2414 4
ENGL 1301 3	ENGL 1302 3
PHIL 1370 3	HIST 1302 3
HIST 1301 3	Fine Arts 3
PEGA 1	COMM 3
14	16

Second Year

Fall Semester		Spring Semester	
MATH 2415	4	MATH 3301	3
MATH 2318	3	MATH 3322	3
Lab Science	4	Lab Science	4
English Literature	3	POLS 2302	3
POLS 2301	3	Minor elective	3
	17		16

Third Year

Fall Semester		Spring Semester	
MATH 3350	3	MATH 3381	3
MATH 3380	3	MATH 4330	3
COSC	3	Social Science	3
Minor elective	3	Elective	3
Elective	3	Minor elective	3
	15		15

Fourth Year

Fall Semester		Spring Semester	
MATH 3370	3	MATH 4340	3
MATH 4310	3	Math elective*	3
Minor elective	3	Minor elective	3
Minor elective	3	Minor elective	3
Elective	3	Elective	3
MATH 4131	1		
	16		15

* Chosen from MATH 3225, 3321, 3330, 3351, 4302, 4313, 4315, 4316, 4317, 4319, 4360, 4380, 4x31

**Bachelor of Science in Mathematics
Applied Mathematics Track – Total Min. Hours: 124**

First Year

Fall Semester		Spring Semester	
MATH 2413	4	MATH 2414	4
ENGL 1301	3	ENGL 1302	3
PHIL 1370	3	HIST 1302	3
HIST 1301	3	Fine Arts	3
PEGA	1	Communication	3
	14		16

Second Year

Fall Semester		Spring Semester	
MATH 2415	4	MATH 3322	3
MATH 2318	3	Applied math elective**	3
Lab Science	4	Lab Science	4
English Literature	3	POLS 2302	3
POLS 2301	3	Minor elective	3
	17		16

Third Year

Fall Semester		Spring Semester	
MATH 3350	3	Applied math elective**	3
MATH 3380	3	Math elective*	3
COSC	3	Social Science	3
Minor elective	3	Elective	3
Elective	3	Minor elective	3
	15		15

Fourth Year

Fall Semester		Spring Semester	
MATH 3370	3	Applied math elective**	3
Math elective*	3	Math elective*	3
Minor elective	3	Minor elective	3
Minor elective	3	Minor elective	3
Elective	3	Elective	3
MATH 4131	1		
	16		15

* Chosen from MATH 3301, 3321, 4302, 4315, 4316

** Chosen from above list or MATH 3225, 4310, 4313, 4317, 4319, 4330, 4380, 4x31

**Bachelor of Science in Mathematics
Statistics Track – Total Min. Hours: 124**

First Year

Fall Semester		Spring Semester	
MATH 2413	4	MATH 2414	4
ENGL 1301	3	ENGL 1302	3
PHIL 1370	3	HIST 1302	3
HIST 1301	3	Fine Arts	3
Communication	3	Elective	3
	16		16

Second Year

Fall Semester		Spring Semester	
MATH 3370	3	MATH 3322	3
MATH 2318	3	MATH 3225	2
Lab Science	4	Lab Science	4
English Literature	3	POLS 2302	3
POLS 2301	3	Minor elective	3
	16	PEGA.....	1
			16

Third Year

Fall Semester		Spring Semester	
MATH 3350	3	MATH 4380	3
MATH 3380	3	MATH 4315	3
COSC	3	Social Science	3
Minor elective	3	Elective	3
Elective	3	Minor elective	3
	15		15

Fourth Year

Fall Semester	Spring Semester
MATH 4313 or 4319 3	Math 4317 3
Math elective* 3	Math elective* 3
Math elective* 3	Minor elective 3
Minor elective 3	Minor elective 3
Minor elective 3	Elective 3
16	15

* Chosen from MATH 2415, 3301, 3321, 4313, 4316, 4319, 4330

Mathematics Courses (MATH)

- 1314 College Algebra** **3:3:0**
 Linear and quadratic equations and inequalities, determinants, matrices, systems of equations, binomial theorem, exponential and logarithmic functions, theory of equations.
Prerequisites: 270 Math THEA or C or better in DMTH 0372.
If THEA exempt: 500 MATH SAT or 19 Math ACT.
Prepares for: MATH 1325, 1342, 1350, 3312.
- 1316 Trigonometry** **3:3:0**
 Study of trigonometric functions, graphs, identities, inverse trigonometric functions, trigonometric equations, and applications of trigonometry. Recommended for students who have not had high school trigonometry.
Prerequisites: 270 Math THEA or C or better in DMTH 0372.
If THEA exempt: 500 MATH SAT or 19 Math ACT.
Prepares for: MATH 2310, 2413, 3313.
- 1320 Geometric Structures** **3:3:0**
 Development of a mathematical way of thinking through a coherent first-hand experience. Emphasis on the student's deductive powers and ability to use language precisely and efficiently. Study of Euclidean geometry; Hilbert's axioms, neutral geometry, hyperbolic geometry; the axiomatic method; and an introduction to consistency, independence, and completeness of axiom systems.
Prerequisites: 270 Math THEA or C or better in DMTH 0372.
If THEA exempt: 500 MATH SAT or 19 Math ACT.
- 1325 Calculus for Business Applications** **3:3:0**
 An introduction to calculus. The derivative, applications of the derivative, techniques of differentiation, exponential and natural logarithmic functions, an introduction to integral calculus.
Prerequisites: Grade of C or better in MATH 1314, or its equivalent.
Prepares for: MATH 2305, 2413.
- 1342 Elementary Statistics** **3:3:0**
 Non-calculus based introduction to statistics, statistical measures of data, statistical description of data, elementary probability, random variables, binomial and normal distributions, estimation, testing hypotheses.
Prerequisites: Grade of C or better in MATH 1314 or its equivalent.
Prepares for: MATH 3370.
- 1350 Fundamentals of Math I** **3:3:0**
 Concepts of sets, functions, numeration systems, number theory and properties of the natural numbers, integers, rational, and real number systems, with an emphasis on problem solving and critical thinking. This course is designed for students seeking EC-4 or 4-8 teacher certification.
Prerequisites: Grade of C or better in MATH 1314 or its equivalent.
Prepares for: MATH 3313.
- 1360 Honors College Algebra** **3:3:0**
 Generally covers same topics as MATH 1314.
Prerequisites: 270 Math THEA or C or better in DMTH 0372.
If THEA exempt: 500 MATH SAT or 19 Math ACT.
Prepares for: MATH 2312.
- 2305 Discrete Mathematics** **3:3:0**
 An introduction to combinatorial mathematics and finite mathematics required in the study of computer science. Topics include elementary set theory, relations and function, combinatorics, and introduction to graph theory with special emphasis on trees and search algorithms, an introduction to recurrence relations and generating functions, and finite state machines.
Prerequisites: Students should be currently enrolled in or have received a grade of C or better in MATH 1325, 2376, 2413, 2460, or 3316.
Prepares for: MATH 3321.

- 2310 Mathematical Modeling I** **3:3:0**
 This course is specifically designed for students who will become teachers in grades 4-8. Students will examine characteristics of situations to select or create math models in algebra, geometry, and trigonometry using real world situations.
Prerequisites: Grade of C or better in MATH 1314 or its equivalent.
- 2312 Precalculus Mathematics** **3:3:0**
 Intensive review of algebra, trigonometry and analytic geometry.
Prerequisites: 270 Math THEA or C or better in DMTH 0372.
If THEA exempt: 500 MATH SAT or 19 Math ACT.
Prepares for: MATH 2376, 2413, 2460.
- 2318 Linear Algebra I** **3:3:0**
 A first course in linear algebra, including vector and matrix arithmetic, solutions of linear systems and the Eigenvalue-Eigenvector problem, elementary vector spaces, and linear transformation theory.
Prerequisites: Mathematics majors should be currently enrolled in or have received a grade of C or better in MATH 2413 or its equivalent; 4-8 teacher certification students should be currently enrolled in or have received a grade of C or better in MATH 3316 or its equivalent.
Prepares for: MATH 3321, 4315, 4330, 4360.
- 2376 Calculus for the Social and Life Sciences** **3:3:0**
 Sets, functions, limits, derivatives and applications, introduction to integral calculus. Designed for students majoring in social and life sciences and students seeking 4-8 math teacher certification.
Prerequisites: Grade of C or better in MATH 1314 or its equivalent.
Prepares for: MATH 2305, 2413.
- 2413 Calculus and Analytical Geometry I** **4:4:0**
 Functions, limits, derivatives of algebraic, trigonometric, exponential and logarithmic functions, curve sketching, related rates, maximum and minimum problems, definite and indefinite integrals with applications.
Prerequisites: Grade of C or better in MATH 2312 or its equivalent.
Prepares for: MATH 2305, 2318, 2414.
- 2414 Calculus and Analytical Geometry II** **4:4:0**
 Methods of integration, polar co-ordinates, parametric equations, sequences and series, and vectors.
Prerequisites: Grade of C or better in MATH 2413 or its equivalent.
Prepares for: MATH 2415, 3301, 3321, 3322, 3370.
- 2415 Calculus and Analytical Geometry III** **4:4:0**
 Functions of several variables, partial derivatives, vector analysis, and multiple integrals.
Prerequisites: Grade of C or better in MATH 2414 or its equivalent.
Prepares for: MATH 4302, 4310.
- 2460 Honors Calculus and Analytic Geometry I** **4:4:0**
 Generally covers same topics as MATH 2413.
Prerequisites: Grade of C or better in MATH 2312 or its equivalent.
Prepares for: MATH 2414.
- 3225* Statistical Analysis with SPSS or MINITAB** **2:2:0**
 Introduction to data analysis with SPSS, correlation, regression, prediction, choice of appropriate statistics, presentation of data.
Prerequisites: Grade of C or better in Math 1342 or consent of Instructor.
- 3300 History of Mathematics** **3:3:0**
 Historical origin and development of mathematical concepts through the sixteenth century. Topics include Egyptian and Babylonian mathematics, Greek mathematics, and early European mathematics.
Prerequisites: Junior standing and grade of C or better in six hours of mathematics.
- 3301 Ordinary Differential Equations** **3:3:0**
 First order equations: modeling and population dynamics, stability, existence and uniqueness theorem for nonlinear equations, Euler's method. Second order equations: nonlinear equations via reductions methods, variation of parameters, forced mechanical vibrations, resonance and beat. Laplace Transform: general forcing functions, the convolution integral. Systems of ODEs: eigenvalues and phase plane analysis.
Prerequisites: Grade of C or better in MATH 2414 or its equivalent.
Prepares for: MATH 4302, 4315.
- 3311 Foundations of Mathematics I** **3:3:0**
 Introduction to mathematical logic and the language and nature of proofs. Applications to sets, mathematical induction, relations and functions.
Prerequisites: Grade of C or better in nine semester hours of mathematics.
Prepares for: MATH 3314, 3315.
- 3312 Probability, Statistics, and Statistical Modeling** **3:3:0**
 This course is specifically designed for students who will become teachers in Grades EC-4 and 4-8. It includes principles and applications of probability and statistics with an emphasis on using real-world data collected, organized, and analyzed by the students.
Prerequisites: Grade of C or better in MATH 1314 or its equivalent.

- 3313 Elementary Geometry** **3:3:0**
 The development of Euclidean geometry, introduction to proofs, concepts of measurement and co-ordinate geometry.
Prerequisites: Grade of C or better in MATH 1350 or MATH 1316 or its equivalent.
Prepares for: MATH 3316.
- 3314 Foundations of Mathematics II** **3:3:0**
 This course is specifically designed for students who will become teachers in grades 4-8. It includes principles and applications of axioms, theorems, and proofs for the natural numbers, integers, and real numbers.
Prerequisites: Grade of C or better in MATH 3311 or its equivalent.
- 3315 Elementary Number Theory** **3:3:0**
 A development of the elementary theory of numbers, Diophantine equations, congruences, Fibonacci numbers and magic squares.
Prerequisites: Grade of C or better in MATH 3311 or its equivalent.
- 3316 Calculus Concepts – Mathematical Modeling II** **3:3:0**
 This course is specifically designed for students who will become teachers in grades 4-8. It includes principles and conceptual foundations of calculus and applications to middle-school mathematics.
Prerequisites: Grade of C or better in MATH 3313 or its equivalent.
Prepares for: MATH 2318.
- 3317 Problem Solving** **3:3:0**
 Study of heuristics and strategies used in solving problems, with extensive practice in solving word problems involving skills in arithmetic, algebra, geometry, and logic.
Prerequisites: Grade of C or better in nine semester hours of mathematics.
- 3321 Discrete Structures** **3:3:0**
 Combinatorics, graphs, Boolean algebra, algebraic structures, coding theory, finite state machines, machine design and computability.
Prerequisites: Grade of C or better in MATH 2318 and 2414, and satisfactory completion of COSC requirement.
- 3322 Introduction to Advanced Mathematics** **3:3:0**
 An introduction to logic and methods of proof with applications to basic set operations, relations, functions, cardinality, and the real number system.
Prerequisites: Grade of C or better in MATH 2414.
Prepares for: MATH 3330, 3350, 3380, 4330.
- 3330 Higher Geometry** **3:3:0**
 Axiomatic and set-theoretic treatment of geometry, analysis of the metric and synthetic approaches to Euclidean geometry, introduction to non-Euclidean geometries.
Prerequisites: Grade of C or better in MATH 3322 or consent of the instructor.
- 3350 Abstract Algebra I** **3:3:0**
 An introduction to abstract algebraic structures concentrating mainly in group theory. Topics in group theory include cyclic groups, normal subgroups, quotient groups, homomorphisms, isomorphisms, permutation groups, the Sylow theorems, and the structure theorem for finite abelian groups.
Prerequisites: Grade of C or better in MATH 3322.
Prepares for: MATH 3351, 4360.
- 3351 Abstract Algebra II** **3:3:0**
 Continuation of MATH 3350. The abstract algebraic structures studied here include rings, fields, and modules. MATH 3351 is strongly recommended for undergraduates contemplating graduate study in mathematics.
Prerequisites: Grade of C or better in MATH 3350.
- 3370 Introduction to the Theory of Statistical Inference** **3:3:0**
 A calculus-based introduction to statistics, probability, special probability distributions, nature of statistical methods, sampling theory, estimation, testing hypotheses.
Prerequisites: Grade of C or better in MATH 2414.
Prepares for: MATH 4380.
- 3380 Analysis I** **3:3:0**
 The real number system, Completeness Axiom, metric spaces, sequences, compactness, continuity, differentiation, Intermediate Value Theorem, Extreme Value Theorem, the Riemann integral, Fundamental Theorem of Calculus.
Prerequisites: Grade of C or better in MATH 3322.
Prepares for: MATH 3381, 4340.
- 3381 Analysis II** **3:3:0**
 Stieltjes integral, convergence, uniform convergence, sequences and series of functions, bounded variation, the Implicit Function Theorem.
Prerequisites: Grade of C or better in MATH 3380.
- 4131 Special Problems** **1:1:0**
 Special advanced problems in mathematics to suit the needs of individual students.
Prerequisites: Consent of Instructor.
- 4231 Special Problems** **2:2:0**
 Special advanced problems in mathematics to suit the needs of individual students.
Prerequisites: Consent of Instructor.

- 4302 Partial Differential Equations** 3:3:0
Boundary value problems with simple geometries in 1, 2, or 3 space dimensions for the heat equation, wave equation, and potential (Laplace) equation, separation of variables, Fourier Series, Sturm-Liouville eigenvalue problems and Helmholtz equation, Rayleigh Quotient, introduction to finite difference methods.
Prerequisites: Grade of C or better in MATH 2415, 3301.
- 4310 Complex Variables** 3:3:0
Complex numbers, analytic functions, complex line integrals, Cauchy integral formula and applications.
Prerequisites: Grade of C or better in MATH 2415.
- 4313* Introduction to Regression Analysis** 3:3:0
Simple linear regression, theory of least squares, multivariate analysis, theory of the general linear model, application to real life data, modeling, and interpretation of computer-generated graphical and numerical results in regression analysis.
Prerequisites: Grade of C or better in MATH 3370 or its equivalent.
- 4315 Numerical Analysis** 3:3:0
Algorithms for solving linear and non-linear equations and systems thereof, interpolating polynomials, finite difference approximations of derivatives, techniques of numerical integration, one-step and multi-step methods for solving ordinary differential equations and systems thereof.
Prerequisites: MATH 2318, 3301, and satisfactory completion of COSC requirement.
Prepares for: MATH 4316.
- 4316 Topics in Applied Numerical Methods** 3:3:0
Topics chosen from linear programming, optimization, numerical simulation, or other fields of interest to students and instructor.
Prerequisites: Grade of C or better in MATH 4315.
- 4317* Introduction to Probability Theory and Stochastic Processes** 3:3:0
Probability, well-known distributions, conditional probability, Bayes' formula, Markov chain, counting process, Poisson process, Chapman-Kolmogorov equations, gambler's ruin, branching process.
Prerequisites: Grade of C or better in MATH 3370 or its equivalent.
- 4319* Introduction to Design of Experiments** 3:3:0
Basic statistical concepts, analysis of variance, randomized blocks, Latin-squares, general factorial designs, 2k and 3k designs, modeling and analysis using MINITAB or SPSS.
Prerequisites: Grade of C or better in MATH 3370 or its equivalent.
- 4321 Topics in Secondary Mathematics Education** 3:3:0
Introduction to essential topics for pre-service 8-12 mathematics educators. Topics include quantitative reasoning, algebraic thinking, geometry, spatial reasoning, measurement, precalculus, mathematics models, and AP Calculus and Statistics.
Prerequisites: Completion of all other mathematics content courses.
- 4330 Advanced Linear Algebra** 3:3:0
Vector spaces, linear transformations, matrices, determinants, Eigenvalues, Eigenvectors, canonical forms, bi-linear mappings and quadratic forms.
Prerequisites: Grade of C or better in MATH 2318, 3322.
- 4331 Special Problems** 3:3:0
Special advanced problems in mathematics to suit the needs of individual students.
Prerequisites: Consent of Instructor.
- 4340 Topology** 3:3:0
An introduction to point set topology, including metrizable, compactness, embeddings, Urysohn's lemma, and homotopy.
Prerequisites: Grade of C or better in MATH 3380 or its equivalent.
- 4360 Computational Modern Algebra** 3:3:0
Introduction to algebraic structures such as rings, integral domains, fields, and polynomials, emphasis on finite structures with applications to computing.
Prerequisites: Grade of C or better in MATH 2318, 3350, or consent of instructor.
- 4380 Theory of Statistical Inference** 3:3:0
A formal introduction to statistical inference, sampling theory, general principles of statistical inference, goodness of fit tests, regression and correlation, analysis of variance.
Prerequisites: Grade of C or better in MATH 3370 or its equivalent.

**Pending approval by the Texas Higher Education Coordinating Board.*

JoAnne Gay Dishman

Department of Nursing

Department Chair: Eileen Deges Curl

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Director of Undergraduate Nursing Studies: Iva Hall

Professors: Curl, Nichols

Associate Professors: Blume, Hall, Rivers

Assistant Professors: Brannan, Bumpus, Godkin, May, Moss, Roberts, J. Smith, S. Smith, Stinson, Walker, Wallace, Wilsker

Instructors: Brown, Chisholm, Ethington, Gongre, Hale, Hammonds, Harding, Heinz, Hoffmeyer, McAfee, Olliff, Patterson, Pipkins, Williams

Clinical Instructors: Grooms, Hunter

The JoAnne Gay Dishman Department of Nursing faculty believe in preparing students to become competent graduates who provide quality nursing care to diverse populations in an ever-changing society. Personal, social, and professional strengths of the graduates are developed to form a basis for continued growth.

Nursing is based on the concepts of professional integrity, effective communication, active inquiry, and service to the community. The goals of nursing are to assist humanity in disease prevention, health promotion, health maintenance and restoration, and the support of death with dignity. Nursing utilizes a spirit of caring, interpersonal communication, critical thinking, and therapeutic interventions to contribute to the health of the individual and society. The responsibility of nurses is to utilize the nursing process to assist people to meet health care needs and to attain health related goals. The faculty believe in the preparation of professional nurses for three major roles: provider of care, coordinator of care, and member of the profession.

Associate Degree graduates are prepared as competent entry-level practitioners to assess the health needs of individuals and families. General education courses provide a foundation for nursing content in the associate degree program. As members of the profession, graduates are able to plan, implement, evaluate and coordinate care for clients in a variety of health care settings. Through education, articulation, and experience, graduates are able to pursue lifelong learning.

Baccalaureate Degree graduates are prepared with a broad perspective and understanding of society, the environment, and people as diverse individuals, families, groups, and communities. Baccalaureate education incorporates a broad range of basic, behavioral, and social sciences, communication and data analysis content to provide a strong foundation for future critical thinking and problem solving. A baccalaureate degree is the most common requirement for entry into graduate nursing education where nurses may further develop their professional roles to become nurse educators, researchers, administrators, or advanced practice nurses.

Nursing students meet course requirements through didactic courses, laboratory assignments, and clinical experience in healthcare facilities under the supervision of University faculty. Students are expected to adhere to rules and regulations of Lamar University and the various agencies to which they are assigned. Specific policies may be obtained from the Director of Undergraduate Nursing Studies.

Graduates must pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in order to receive licensure to practice professional nursing. Graduates will be required to meet criteria established by the Texas Board of Nursing in order to take the NCLEX-RN examination.

Lamar University nursing programs, for both associate and baccalaureate degrees, are fully accredited by the Texas Board of Nursing and the National League for Nursing Accrediting Commission (NLNAC, 3343 Peachtree Road NE, Suite 500, Atlanta, Georgia 30326, phone (409) 975-5000, fax (409) 975-5020).

Admission and Progression in Nursing Undergraduate Programs

Students wanting to be admitted to nursing must submit an Application for Admission to Nursing. Students wishing to major in nursing must have a minimum cumulative GPA of 2.0, have met the THEA (formerly TASP) requirement, and be in good standing in the University.

Students not enrolled at Lamar must submit two separate applications: one for admission to Lamar (obtained from the Office of Admissions), and one for admission to the specific nursing program (obtained from the Advising Center, Room 257, McFaddin-Ward Health Sciences Building).

Applications for admission to the nursing programs must be received by **March 1** prior to the fall semester admission and **October 1** for spring admission. The following items must accompany the application:

- Application fee,
- Official transcripts from all colleges and universities previously attended,
- Official transcript evaluation by Lamar University, and
- Written documentation of passing all components of THEA.

Applicants are urged to follow application instructions carefully to ensure processing by the Admissions Committee. Students are responsible for assuring that their applications are complete, including the transcript evaluation. Incomplete applications will not be considered. Students seeking readmission are required to submit an application and fee.

Applications for admission to nursing are evaluated on the following basis:

1. Admission to the university (Admissions section of this bulletin.)
2. Transcript evaluation of previous college work
3. Evidence of physical and emotional capability of completing the program of instruction and clinical practice
4. Completion of all pre-requisite courses with a minimum grade of "C" and a 2.0 GPA overall as well as in the science courses
5. Pre-admission exam scores. (Contact Nursing Advising Center for information.)
6. Admission may be limited by available space.
7. See program of choice for additional requirements.

Official transcript evaluation by Lamar University is required for all transfer credits. Transfer credits which are not equivalent to Lamar credits must be evaluated on an individual basis by the appropriate department chair.

As part of the admission process, students are required to:

- Complete criminal background screening;
- Obtain CPR certification;
- Document essential health competencies and update immunizations; and
- Obtain nursing liability insurance.

For progression in the program, a minimum grade of “C” must be earned in English composition, nursing and science courses, and an overall GPA of 2.0 must be maintained in all course work. A student who fails to perform satisfactorily in clinical practice will receive a failing grade in the companion nursing course regardless of the theory grade. Students may be readmitted only one time. Under no circumstances may a nursing course be repeated more than once. See the Undergraduate Nursing Studies Handbook for specific policies. The handbook is available by contacting the Dishman Department of Nursing, (409) 880-8821.

Due to the required sequencing of the nursing program courses, students who fail a nursing course will not be allowed to progress to the next courses. Re-admission to the program is not guaranteed and is based upon space availability, assessment of previous performance in the program, and grades. Progression policies are published in the Undergraduate Nursing Studies Student Handbook.

Students requesting readmission or transfer must submit an application for readmission or transfer to the Nursing Admissions Committee by **October 1** for Spring admission and **March 1** for Summer and Fall admission. Students who have been unsuccessful in two or more nursing courses at other nursing programs are not eligible for admission. Transfer students who are admitted with a grade of “D” or lower in a nursing program from another institution must complete the course at Lamar University. Transfer students are admitted on a space-available basis. See department transfer policy available from the Nursing Advising Center.

Additional costs above tuition and fees are involved in nursing programs. Uniforms, equipment, instruments, liability insurance, health examinations, special testing fees, course packet fees, additional laboratory fees and transportation to clinical facilities are the student’s responsibility. Financial aid is available for eligible students (see Financial Aid and Awards section of this bulletin).

Liability insurance and health examinations must be renewed each year of the nursing programs. Students may be assigned to clinical experiences during day, evening, night or weekend hours. Clinical agencies may require additional health examinations, dress codes or conformity with other policies. Students will be informed in advance of such requirements.

Eligibility for Graduation

In addition to the University graduation requirements and compliance with the written degree plan, students must pass a nationally standardized examination designated by the department in order to graduate from the respective program. The courses of the final semester of each program constitute the capstone experience. The Department recommends that all other course requirements are completed prior to entry into the final capstone semester. Further explanation is provided in the Undergraduate Nursing Studies Handbook.

Bachelor of Science – Nursing

Director of Undergraduate
Nursing Studies: Iva Hall

226 McFaddin-Ward Health Sciences Building

Completion of the program leads to a Bachelor of Science in Nursing (BSN) degree. Recipients of the degree are eligible to make application to take the NCLEX-RN exam to become a Registered Nurse (RN).

The baccalaureate program also provides an opportunity for Registered Nurses who wish to pursue a Bachelor of Science in Nursing degree. This special track is called the RN-BSN Articulation Track. Please refer to separate admission requirements in the appropriate section.

To be considered for admission to the BSN program, the student must:

1. Have completed all prerequisite (preadmission) courses with a minimum grade of “C”
2. Have an overall grade point average (GPA) of 2.00
3. Have a minimum grade of “C” with an overall grade point average (GPA) of 2.00 in the sciences (Biology and Chemistry courses)
4. Have a minimum grade of “C” in Nursing Pathophysiology from an accredited college or university that was earned within 3 years prior to admission.
5. Meet criteria in the section on Admission to Department of Nursing.
6. Take the department designated pre-admission exam.

Bachelor of Science in Nursing

Suggested Program of Study – Total Min. Hours: 131

This plan of study is the minimum prescribed program.

First Year

BIOL 2401 A & P I [◇] 4	BIOL 2402 A & P II [◇] 4
ENGL 1301 English [◇] 3	ENG 1302 English [◇] 3
MATH 1314 Algebra [◇] 3	CHEM 1406 Chemistry [◇] 4
PHIL 1370 Philosophy [◇] 3	FCSC 1322 Nutrition [◇] 3
HIST 1301 History..... 3	HIST 1302 History..... 3
PEGA PE..... 1	
17	17

Summer I

POLS 2301 Polit. Science..... 3
ENG Eng. Literature..... 3
6

Summer II

POLS 2302 Pol. Science II..... 3
COMM 1315 Communication..... 3
6

Second Year

BIOL 2420 Microbiology [◇] 4
NURS 1373 Pathophysiology ^{◇**} 3
PSYC 2308 Child Psychology [◇] 3
NURS 1102 Nursing as a Profession*..... 1
PSYC 2471 Psyc. Statistics***..... 4
15

Summer I

NURS 2330 Principles of Pharmacology..... 3
PSYC 2311 Adult Aging/Development [^] 3
6

(Level I)

NURS 2340 Concepts of Professional Nursing... 3
NURS 2241 Practicum: Concepts of Prof. Nsg... 2
NURS 2213 Theories in Nursing..... 2
NURS 2210 Nursing Simulation Lab I..... 2
NURS 2316 Holistic Health Assmt..... 3
12

Summer II

Fine Art..... 3
3

Third Year

(Level II)

NURS 3420 Care of Adults.....	4	NURS 3560 Care of the Parent-Child Family	5
NURS 3221 Practicum: Care of Adults.....	2	NURS 3361 Practicum: Care of the	
NURS 3210 Nursing Simulation Lab II	2	Parent-Child Family.....	3
NURS 3230 Care of Behavioral Health Clients ..	2	NURS 3280 Care of Older Adults	2
NURS 3231 Practicum: Care of B.H. Clients	2	NURS 3181 Practicum: Care of Older Adults	1
		NURS 3390 Nursing Inquiry and EBP	3
	12		13

Fourth Year

(Level III)

NURS 4320 Care of Adults with Complex		NURS 4180 Synthesis of Nursing Seminar	1
Health States	3	NURS 4381 Preceptorship: Synthesis of Nursing..	3
NURS 4221 Practicum: Care of Adults with		NURS 4350 Nursing Management & Leadership..	3
Complex Health States	2	NURS 4251 Practicum: Nursing Mang. & Lead..	2
NURS 4340 Care of Communities.....	3	NURS 4360 Transition to the Profession.....	3
NURS 4241 Practicum: Care of Communities....	2		
Social Science Elective	3		
	13		12

Non-nursing Credits	66	
Nursing Pre-requisite (Patho)	3	
Nursing Required Credits	63	
Total Credits	131	(*132 with pre-nursing elective)

◊ Denotes prerequisite required for admission to the nursing program.

^ PSYC 2311 is a prerequisite for NURS 3420 and NURS 3221.

* Nursing as a Profession is recommended but not required.

** Prerequisite courses BIOL 2401 and 2402 must be completed with a grade of "C" or better prior to enrolling in NURS 1373. Pathophysiology must be taken within three years of admission to the nursing program.

*** PSYC 2471 Statistics is a prerequisite for NURS 3390.

Bachelor's Degree Nursing Courses (NURS)

1102 Nursing as a Profession		1:1:0
Introduction to the role of a professional nurse. It is designed for all students interested in learning about the discipline of nursing.		
<i>Open to all nursing majors; recommended course but not required</i>		
1373 Basic Pathophysiology		3:3:0
Study of basic pathophysiology with emphasis on mechanisms of disease processes. Focus is on basic understanding of alterations in health related to selected disease process across the lifespan.		
<i>Prerequisites: BIOL 2401, 2402</i>		
<i>Corequisites: BIOL 2420</i>		
2210 Nursing Simulation Lab I		2:0:4
Introduction to therapeutic interventions, based on scientific principles, necessary to support the delivery of nursing care. Focuses on the use of therapeutic interventions necessary for delivery of safe, competent care to individuals and families.		
<i>Prerequisites: Admission to Baccalaureate degree program, NURS 1373 or department consent</i>		
<i>Companion: NURS 2340, NURS 2241</i>		
<i>Corequisites: NURS 2316, NURS 2213</i>		
2213 Theories in Nursing		2:2:0
Presentation of theories germane to nursing: Overview of nursing history with an introduction to ethical/legal issues affecting professional nursing practice; includes active inquiry, critical thinking, research and the formation of a personal philosophy of nursing.		
<i>Prerequisites: Admission to baccalaureate degree program, NURS 1373 or department consent</i>		
<i>Corequisites: NURS 2340, NURS 2241, 2210, 2316</i>		
2241 Practicum: Concepts of Professional Nursing		2:0:6
Incorporate concepts learned in didactic courses in nursing of clients in variety of settings.		
<i>Prerequisites: Admission to Baccalaureate degree program, NURS 1373 or department consent</i>		
<i>Companion: NURS 2340, NURS 2210</i>		
<i>Corequisites: NURS 2213, NURS 2216</i>		

2316	Holistic Health Assessment Emphasizes the assessment phase of the nursing process across the life span. Students perform comprehensive health assessments to identify health promotion, risk assessment and disease prevention behaviors. <i>Prerequisites:</i> Admission to Baccalaureate degree program, NURS 1373 or department consent <i>Corequisites:</i> NURS 2340, NURS 2241, 2213, 2210	3:1:4
2330	Pharmacology Introduction to pharmacology, principles of therapeutics and clinical applications with clients across the life span. <i>Prerequisites:</i> NURS 2340, 2241	3:3:0
2340	Concepts of Professional Nursing Explores holistic needs of individuals and families. Focuses on health promotion and disease prevention in individuals and families across the lifespan. <i>Prerequisites:</i> NURS 2210, 2241 <i>Corequisites:</i> NURS 2316, 2213	3:3:0
3111	Special Topics Course provides opportunities for students to study a single nursing topic in depth.	1:1:0
3181	Practicum: Care of Older Adults Application of knowledge and skills related to multiple health states including health promotion, health maintenance and restoration of health in older adults. <i>Prerequisites:</i> NURS 3420, 3221, 3210, 3230, 3231, PSYC 2311 <i>Corequisites:</i> NURS 3560, 3361, 3390	1:0:3
3210	Nursing Simulation Lab II Continues introduction to nursing skills and procedures which provide therapeutic interventions necessary to support the nursing process in the clinical setting. <i>Prerequisites:</i> NURS 2340, 2241, 2210, 2213, 2316 <i>Companion:</i> NURS 3420, 3221, 3230, 3231	2:0:4
3221	Practicum: Care of Adults Incorporate concepts learned in didactic courses in nursing care of adult clients in common and complex multiple health states. <i>Prerequisites:</i> NURS 2340, 2241, 2210, 2213, 2316, 2330, PSYC 2311 <i>Companion:</i> NURS 3420, 3210 <i>Corequisites:</i> NURS 3230, 3231	2:0:6
3230	Care of the Behavioral Health Client Concepts and principles of individuals, families, and groups experiencing psychopathology are explored. <i>Prerequisites:</i> NURS 2340, 2241, 2213, 2210, 2316, 2330 <i>Companion:</i> NURS 3231, 3210 <i>Corequisites:</i> NURS 3420, 3221	2:2:0
3231	Practicum: Care of the Behavioral Health Client Incorporates nursing care of clients, families and groups in a variety of behavioral health settings. <i>Prerequisites:</i> NURS 2340, 2241, 2213, 2210, 2316, 2330 <i>Companion:</i> NURS 3230, 3210 <i>Corequisites:</i> NURS 3420, 3221	2:0:6
3280*	Care of Older Adults Opportunity to expand knowledge related to prevention, health promotion, health maintenance, and restoration of health in older adults. Includes assessment of the physical, mental, functional, and social well-being of older adults and their families. <i>Prerequisites:</i> NURS 3420, 3221, 3210, 3230, 3231, PSYC 2311 <i>Corequisites:</i> NURS 3560, 3361, 3390	2:2:0
3361	Practicum: Care of the Parent-Child Family Incorporates concepts learned in didactic course in nursing care of individuals and families as they relate to child-bearing and childrearing. <i>Prerequisites:</i> NURS 3420, 3221, 3210, 3230, 3231 <i>Companion:</i> NURS 3560 <i>Corequisites:</i> NURS 3180, 3181, 3390	3:0:9
3377	Special Topics in Nursing Elective introducing topics related to health care. Designed to expand the student's professional role in various health care settings and areas of specialization.	3:3:0
3390	Nursing Inquiry and Evidence-Based Practice Focuses on basic elements of the research process including the acquisition, evaluation, utilization and interpretation of research findings to nursing practice. <i>Prerequisites:</i> NURS 3420, 3221, 3210, 3230, 3231, PSYC 2471 <i>Corequisites:</i> NURS 3560, 3361, 3180, 3181	3:3:0
3420	Care of Adults Major emphasis is placed on utilization of critical thinking, nursing process, and nursing theory in planning nursing interventions for diverse clients in acute and chronic care settings. <i>Prerequisites:</i> NURS 2340, 2241, 2213, 2210, 2330, 2316, PSYC 2311 <i>Companion:</i> NURS 3221, 3210 <i>Corequisites:</i> NURS 3230, 3231	4:4:0

3560	Care of the Parent-Child Family Emphasis is on the nursing needs of pregnant women, children and families. <i>Prerequisites:</i> NURS 3420, 3221, 3210, 3230, 3231 <i>Companion:</i> NURS 3361 <i>Corequisites:</i> NURS 3180, 3181, 3390	5:5:0
4180	Synthesis of Nursing Seminar Learners utilize theoretical and evidence-based knowledge from nursing and other disciplines to critically analyze complex and multi-system health care problems of individuals, families, groups and populations. <i>Prerequisites:</i> NURS 4320, 4221, 4340, 4241 <i>Companion:</i> NURS 4381 <i>Corequisites:</i> NURS 4350, 4251, 4360	1:0:2
4221	Practicum: Care of Adults with Complex Health States Nursing care of adult clients with complex health states. <i>Prerequisites:</i> NURS 3560, 3361, 3180, 3181, 3390 <i>Companion:</i> NURS 4320 <i>Corequisites:</i> NURS 4340, 4241	2:0:6
4241	Practicum: Care of Communities Provides safe and effective holistic nursing care to a variety of clients in multiple settings from a global perspective by incorporating theories and evidence-based findings. <i>Prerequisites:</i> NURS 3560, 3361, 3180, 3181, 3390 <i>Companion:</i> NURS 4340 <i>Corequisites:</i> NURS 4320, 4221	2:0:6
4251	Practicum: Nursing Management and Leadership Application of theories of leadership and management practices including the organizing, planning, staffing, directing, and controlling of resources within the health care system. <i>Prerequisites:</i> NURS 4320, 4221, 4340, 4241 <i>Companion:</i> NURS 4350 <i>Corequisites:</i> NURS 4180, 4381, 4360	2:0:6
4320	Care of Adults with Complex Health States Emphasis is on the developing role of the professional nurse; compassionate holistic nursing care, critical thinking and decision making. Course integrates advanced technology, research, and evidence-based practice as a foundation of caring. <i>Prerequisites:</i> NURS 3560, 3361, 3180, 3181, 3390 <i>Companion:</i> NURS 4221 <i>Corequisites:</i> NURS 4340, 4241	3:3:0
4340	Care of Communities Focuses on delivery of holistic nursing care to a variety of clients in multiple settings from a global perspective by incorporating theories and evidence-based findings. The community is viewed from a global perspective. <i>Prerequisites:</i> NURS 3560, 3361, 3180, 3181, 3390 <i>Companion:</i> NURS 4241 <i>Corequisites:</i> NURS 4320, 4221	3:3:0
4350*	Nursing Management and Leadership Explores theories of leadership and management practices including the organization, planning, staffing, directing, and controlling of resources within the healthcare system. Focuses on the role of the professional nurse as healthcare planner, leader and manager. <i>Prerequisites:</i> NURS 4320, 4221, 4340, 4241 <i>Companion:</i> NURS 4251 <i>Corequisites:</i> NURS 4180, 4381, 4360	3:3:0
4360	Transition to the Profession Focuses on the assumption of the professional nursing role and its relationship to practice. <i>Prerequisites:</i> NURS 4320, 4221, 4340, 4241 <i>Corequisites:</i> NURS 4180, 4381, 4350, 4251	3:3:0
4375	Directed Study in Nursing This course allows the student to independently study a selected topic in nursing or health care.	3:3:0
4381	Preceptorship: Synthesis of Nursing Provides a venue to consolidate nursing knowledge and competencies into the nursing workforce. The focus centers on knowledge, competencies, clinical skills, priority setting, and workload management. <i>Prerequisites:</i> NURS 4320, 4221, 4340, 4241, 4350, 4251 <i>This course starts at mid-term in the final semester of the Baccalaureate program. It is a capstone experience. All previously required course work must be completed satisfactorily before entering the course.</i>	3:0:9

*Pending approval by the Texas Higher Education Coordinating Board

RN – BSN Articulation Track

Coordinator: Sandy Brannan

**232 McFaddin-Ward Health Sciences Bldg.
Phone 880-8822**

This flexible track is designed for the career-oriented registered nurse seeking a Bachelor of Science in Nursing (BSN) degree. The nurse must be a registered nurse in the state of Texas. Progression through the track is dependent upon the nurse's initial nursing preparation. Admission to Lamar University is required as well as admission to the RN–BSN Articulation Track. Transcripts must be evaluated by the Coordinator of the Articulation Track Transcripts prior to application being made. Official transcripts from other colleges or universities must be evaluated by Lamar.

RN – BSN Articulation Track Admission Criteria

Students are not officially admitted to the RN-BSN track until they have completed all prerequisite courses. Applications may be obtained from the Nursing Advising Office (Room 257), or by calling (409) 880-8868. An application fee is required. Deadline for the application is **March 1** for summer admission.

Applicants for the RN-BSN Track must meet the same admission requirements as specified for the basic BSN program in addition to being currently licensed to practice professional nursing in Texas. A meeting with the Articulation Coordinator is required to develop a degree plan. Advising is available by phone or in person.

Bachelor of Science in Nursing Curriculum Plan for RN to BSN Track

Suggested Program of Study

This plan of study is the minimum prescribed program. The remaining 31 credit hours of non-nursing core curriculum (general education) courses can be taken while enrolled in nursing courses. Consult with the Articulation Coordinator for the best options, (409) 880-8822.

Prerequisite Courses

BIOL 2401 Anat & Phys I.....	4
BIOL 2402 Anat & Phys II.....	4
BIOL 2420 Microbiology.....	4
CHEM 1406 Chem. for Allied H.S....	4
NURS 1373 Pathophysiology	3
PSYC 2308 Child Psychology.....	3
PSYC 2311 Adult Aging & Dev.....	3
PSYC 2471 Intro. Statistical Meth....	4
MATH 1314 College Algebra	3
FCSC 1322 Intro. to Nutrition	3
ENGL 1301 Composition	3
ENGL 1302 Composition	3
PHIL 1370 Philosophy of Know.	3
PEGA Phys. Ed. (if < age 25).....	1-2
Total	45-46

Core Nursing Courses

Summer I

NURS 2213 Theories in Nursing	2
NURS 2316 Holistic Health Assessment	3

Summer II

NURS 3390 Nursing Inquiry & EBP	3
Concurrent courses.....	3-6
	11-14

Fall Semester

NURS 4320 Care of Adults w/ Comp. Health St.3	2
NURS 4221 Practicum: Adults w/ Comp. H. St. 2	3
NURS 4340 Care of Communities.....	2
NURS 4241 Practicum: Care of Communities....	3-6
Concurrent courses.....	3-6
	13-16

Spring Semester

NURS 4180 Synth. of Nursing Seminar	1
NURS 4381 Preceptorship: Synth. of Nursing ...	3
NURS 4350 Nursing Management & Lead.....	3
NURS 4251 Practicum: Mgmt. & Lead.....	2
NURS 4360 Transition to the Profession.....	3
Concurrent courses	3
	15-18

Escrow: Up to 32 credit hours of other nursing courses will be escrowed based on transcript evaluation, completion of nursing courses at Lamar University, and paying the required fee.

Non-Nursing Credits: Transfer credits from a junior college are limited to 66 semester hours or the number of hours required by the University during the freshman and sophomore years in the appropriate chronological order. Lower division community college credits will not be considered for upper-division (junior-senior) level.

Only non-nursing credits that carry college credit may transfer. See Transfer Credit Evaluation in this bulletin.

Associate of Applied Science in Nursing

Director of Undergraduate Nursing Studies: Iva Hall

**226 McFaddin-Ward
Health Sciences Building**

Completion of the program leads to an Associate of Applied Science degree in Nursing. Recipients of the degree are eligible to make application to take the NCLEX-RN exam to become a Registered Nurse (RN). The associate degree program complies with the SCANS guidelines and the THECB Workforce Education Course Manual.

The Associate Program also provides an opportunity for Licensed Vocational Nurses who wish to pursue an Associate of Applied Science in Nursing degree. This special track is called the LVN-ADN Articulation Track. Please refer to separate admission requirements in the appropriate section.

To be considered for admission, the student must:

1. Have completed all preadmission courses with a minimum grade of “C” and a 2.0 GPA overall as well as in the science courses;
2. Have an overall grade point average (GPA) of 2.00;
3. Have a minimum grade of “C” with an overall grade point average (GPA) of 2.00;
4. Meet criteria in the section on Admission to Department of Nursing Program; and
5. Take the department designated pre-admission exam

Suggested Program of Study

This plan of study is the minimum prescribed program.

Preadmission Courses

BIOL 2401 Anat & Phys	4
BIOL 2402 Anat & Phys	4
BIOL 2420 Microbiology	4
ENGL 1301 Composition	3
MATH 1314 or TM options.....	3
NURS 1373 Pathophysiology*	3
	21

First Year

Fall Semester

RNSG 1413 Foundation for N Prac.....	4
RNSG 1160 Clinical: Foundations.....	1
RNSG 1215 Health Assessment	2
RNSG 1105 Nursing Skills I.....	1
PSYC 2311 Adult Dev. & Aging**	3
	11

Spring Semester

RNSG 1341 Common Concepts of Adult Hlth ...	3
RNSG 1161 Clinical: Common Concepts Adult Hlth.....	1
RNSG 1144 Nursing Skills II	1
RNSG 1343 Complex Concepts of Adult Hlth ...	3
RNSG 1162 Clinical: Complex Concepts of Adult Hlth.....	1
RNSG 1301 Pharmacology	3
	12

Summer I

Elective	3
PSYC 2308 Child Psychology***	3
	6

Second Year

Fall Semester

RNSG 2201 Care of Children & Families.....	2
RNSG 2160 Clinical: Children & Fam	1
RNSG 2208 Mater./Newborn Women Hlth	2
RNSG 2161 Clinical Mat/Newbrn Women.....	1
RNSG 2213 Mental Health. Nursing	2
RNSG 2162 Clinical: Mental Health	1
†Humanities/Fine Art	3
	12

Spring Semester••

RNSG 2221 Management of Client Care	2
RNSG 2260 Clinical: Mgmt of Client Care	2
RNSG 2231 Advanced Concepts Adult Hlth	2
RNSG 2207 Transition to Nursing Practice	2
RNSG 2263 Clinical: Capstone	2
	10

Non-Nursing hours	33
Nursing hours	39
Total	72

* Prerequisite courses BIOL 2401 and 2402 must be completed with a grade of "C" or better prior to enrolling in NURS 1373. Pathophysiology must be taken within three years of admission to the nursing program.

** PSYC 2311 Adult Development and Aging is a prerequisite to RNSG 1341.

*** PSYC 2308 Child Psychology is a prerequisite to RNSG 2201.

†1) Literature, 2) Philosophy, or 3) Fine Arts (ARTS 1301, DANC 2304, HUMA 1315, MUSI 1306 or THEA 1310)

•• Capstone Courses

Associate of Applied Science – Nursing Courses (RNSG)

1105 Nursing Skills I

1:0:3

Study of the concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework.

Prerequisite: Preadmission courses, admission to ADN program or departmental consent.

Corequisite: RNSG 1160, 1413, 1215.

- 1144 Nursing Skills II** **1:0:3**
 Study of the concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.
Prerequisite: Completion of all 1st semester courses, RNSG 1413, 1160, 1215, 1105.
Corequisite: RNSG 1341, 1161, 1343, 1162, 1301.
- 1160 Clinical: Foundations** **1:0:3**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisite: Preadmission courses, admission to ADN program or departmental consent.
Corequisite: RNSG 1413, 1215, 1105.
- 1161 Clinical: Common Concepts of Adult Health** **1:0:3**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisite: Completion of all 1st semester courses, RNSG 1413, 1160, 1215, 1105.
Corequisite: RNSG 1341, 1144, 1301.
- 1162 Clinical: Complex Concepts of Adult Health** **1:0:3**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 1413, 1160, 1215, 1105, 1311, 1314, 1161.
Corequisites: RNSG 1144, 1343, 1301
- 1207 Nursing Jurisprudence** **2:2:0**
 A course in nursing jurisprudence and ethics with an emphasis on personal and professional responsibility. Study of the laws and regulations related to the provision of safe and effective professional nursing care.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162.
Corequisites: RNSG 2221, 2260, 2231, 2263.
- 1215 Health Assessment** **2:1:3**
 Development of skills and techniques required for a comprehensive health assessment within a legal/ethical framework.
Prerequisite: Preadmission courses, admission to ADN program or departmental consent.
Corequisite: RNSG 1413, 1105, 1160.
- 1301 Pharmacology** **3:3:0**
 Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework.
Prerequisites: RNSG 1413, 1160, 1215, 1105, 1311.
Corequisites: RNSG 1341, 1161, 1343, 1162, 1144.
- 1311 Pathophysiology** **3:3:0**
 Basic principles of pathophysiology emphasizing nursing applications. Topics include principles of homeostasis related to body systems.
Prerequisite: Preadmission courses or departmental consent.
- 1341 Common Concepts of Adult Health** **3:3:0**
 Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge judgment, skills, and professional values within a legal/ethical framework.
Prerequisite: Completion of all 1st semester courses, RNSG 1413, 1160, 1215, 1105, PSYC 2311.
Corequisite: RNSG 1160, 1144, 1301.
- 1343 Complex Concepts of Adult Health** **3:3:0**
 Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework.
Prerequisites: RNSG 1413, 1160, 1215, 1105, 1311, 1341, 1161.
Corequisites: RNSG 1144, 1162, 1301.

- 1413 Foundations for Nursing Practice** **4:4:0**
 Introduction to the role of the professional nurse as provider of care, coordinator of care, and member of the profession. Topics include but are not limited to the fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-making, mechanisms of disease, the needs and problems that nurses help patients manage, and basic psychomotor skills. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework.
Prerequisite: Preadmission courses, admission to ADN program or departmental consent.
Corequisite: RNSG 1160, 1215, 1105, 1311, or permission from program director.
- 2160 Clinical: Children & Families** **1:0:4**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301.
Corequisites: 2201, 2208, 2161, 2213, 2162.
- 2161 Clinical: Maternal/Newborn Women Health** **1:0:4**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301.
Corequisites: 2201, 2208, 2213, 2162, 2160.
- 2162 Clinical: Mental Health** **1:0:4**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301.
Corequisites: 2201, 2208, 2161, 2213.
- 2201 Care of Children & Families** **2:2:0**
 Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment, and professional values within a legal/ethical framework.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301, PSYC 2308.
Corequisites: RNSG 2160, 2208, 2161, 2213, 2102.
- 2207* Transition to Nursing Practice** **2:2:0**
 Introduction to selected concepts related to the role of the professional nurse as a provider of care, coordinator of care and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Topics include knowledge, judgment, skill and professional values within a legal/ethical framework, including studying laws and regulations related to the provisions of safe and effective professional nursing care.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162.
Corequisites: RNSG 2221, 2260, 2231, 2263.
- 2208 Maternal/Newborn Women Health** **2:2:0**
 Study of concepts related to the provision of nursing care for normal childbearing families and those at risk, as well as women's health issues; competency in knowledge, judgment, skill, and professional values within a legal/ethical framework, including a focus on normal and high-risk needs for the childbearing family during the preconception, prenatal, intrapartum, neonatal, and postpartum periods; and consideration of selected issues in women's health.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301.
Corequisites: RNSG 2201, 2160, 2161, 2213, 2162.
- 2213 Mental Health Nursing** **2:2:0**
 Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families.
Prerequisites: RNSG 1341, 1161, 1144, 1343, 1162, 1301.
Corequisites: RNSG 2201, 2160, 2208, 2161, 2162.
- 2221 Management of Client Care** **2:2:0**
 Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162.
Corequisites: RNSG 2260, 2231, 1207,
- 2231 Advanced Concepts Adult Health** **2:1:3**
 Application of advanced concepts and skills for the development of the professional nurse's roles in complex nursing situations with adult clients/families with complex health needs involving multiple body systems in intermediate and critical care settings. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162.
Corequisites: RNSG 2221, 2260, 1207, 2263.

- 2260 Clinical: Management of Client Care** **2:0:8**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162.
Corequisites: RNSG 2221, 2231, 1207.
- 2263 Clinical: Capstone** **2:0:8**
 A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Prerequisites: RNSG 2201, 2160, 2208, 2161, 2213, 2162, 2221, 2260.
Corequisites: RNSG 2231, 1207.

**Pending approval by the Texas Higher Education Coordinating Board*

Associate Degree Program

LVN to ADN Articulation Track

Coordinator: Sandy Brannan
Phone 880-8822

232 Ward Health Sciences Bldg.

The LVN to ADN Articulation Track is an alternate track leading to an Associate of Applied Science Degree in Nursing. This track facilitates educational mobility for the experienced Licensed Vocational Nurse (LVN or LPN). Students enrolling in this track are required to be currently licensed as a LVN or LPN and have recent employment in nursing. **All** prerequisite courses require a grade of “C” or better prior to admission. Students must meet all of the admission requirements for the basic ADN program. Students must be accepted by the University and have an overall grade point average (GPA) of 2.0 or better prior to admission. Students are admitted to nursing based on space availability and completion of all prerequisite courses. Applications to the LVN to ADV track are due by **March 1** for summer admission. Students will be admitted to the LVN to ADN track for the Summer 1 session. After completing all program requirements, including an exit examination, LVN to ADN students are eligible to take the NCLX-RN exam. Academic advisement by the Articulation Coordinator must occur prior to the March 1 deadline.

Associate of Applied Science in Nursing Curriculum Plan for LVN to ADN Track

Suggested Program of Study

This plan of study is the minimum prescribed program.

Preadmission Courses	
BIOL 2401 Anat & Phys	4
BIOL 2402 Anat & Phys	4
BIOL 2420 Microbiology	4
ENGL 1301 Composition	3
MATH 1314 or TM options.....	3
PSYC 2308 Child Psychology*	3
or PSYC 2311 Adult Aging*	3
NURS 1373 Pathophysiology**	3

Summer I

RNSG 1215 Health Assessment	2
RNSG 1327 Transition.....	3
RNSG 1301 Pharmacology	3
	<u>8</u>

Summer II

RNSG 1343 Complex Conc. of Client Care.....	3
RNSG 1162 Clincial: Comp. Conc. Adult Hlth. .	1
RNSG 1144 Nursing Skills.....	1
	<u>5</u>

Second Year

Fall Semester

RNSG 2201 Care of Children & Families.....	2
RNSG 2160 Clinical: Children & Fam	1
RNSG 2208 Mater./Newborn Women Hlth	2
RNSG 2161 Clinical Mat/Newbrn Women	1
RNSG 2213 Mental Health. Nursing	2
RNSG 2162 Clinical: Mental Health.....	1
	<u>9</u>
Non-Nursing hours	30
Nursing hours	<u>42</u>
Total	72

Spring Semester••

RNSG 2221 Management of Client Care	2
RNSG 2260 Clinical: Mgmt of Client Care	2
RNSG 2231 Advanced Concepts Adult Hlth	2
RNSG 1207 Nsg Jurisprudence	2
RNSG 2263 Clinical: Capstone	2
	<u>10</u>

** Both required for graduation*

*** Prerequisite courses BIOL 2401 and 2402 must be completed with a grade of "C" or better prior to enrolling in NURS 1373. Pathophysiology must be taken within three years of admission to the nursing program.*

After completing RNSG 2343 and 1162, the LVN to ADN student will be awarded escrow hours for the following courses:

- RNSG 1413 Foundation
- RNSG 1160 Clinical
- RNSG 1105 Nursing Skills I
- RNSG 1341 Common Concepts of Adult Health
- RNSG 1161 Clinical: Common Concepts of Adult Health
- Total: 10 hours

Department of Political Science

Department Chair: Glenn H. Utter

**201 Social and Behavioral Sciences
Building, Phone 880-8526**

Pre-Law Advisor: Terri B. Davis

Fax 880-1710

Distinguished Professor Emeritus: Drury

Professors: Castle, Utter, Vanderleeuw

Associate Professors: Lanier

Assistant Professors: Beggan, Davis, Sandovici, Sowers

Instructors: Owen, Pennington

The Political Science Department provides all university students with knowledge and appreciation of national and state political processes and equips undergraduate majors with a wide knowledge of the various substantive areas of the discipline, including American politics, comparative politics, public administration and public policy, political theory, and international relations. Students receive instruction in social science research methodology, critical analysis, and methods of effective communication to prepare them for appropriate professional, educational, and occupational opportunities.

Political Science faculty members have earned doctorates in a wide range of specializations within the broad areas of the discipline. Departmental instruction is energized and informed by faculty involvement in research, scholarly publication, and professional activities at political science and social science organization meetings. Department faculty serve the larger community by participating in civic organizations, commissions, and task forces, and offering professional expertise as consultants and advisers to local governmental and nongovernmental organizations.

The Department of Political Science offers the following undergraduate degrees: Bachelor of Arts in Political Science, Bachelor of Science in Political Science, and Bachelor of Science in Political Science with Social Studies Teacher Certification. Additionally, the Department offers a Pre-Law Program leading to Bachelor of Arts or Science degrees with intern credit.

Minimum Academic Standards for Political Science Majors

The following minimum academic standards apply to students enrolled as a major in the Department of Political Science:

1. A grade of C or better in English composition courses is required.
2. A grade of C or better in all Political Science courses is required.
3. A grade of C or better in all courses in the minor is required.
4. A 2.0 grade point average in the major is required for graduation.
5. An overall grade point average of 2.0 is required for graduation.
6. A student with a grade point deficiency of 10 or more will not be allowed to register as a Political Science major or transfer into Political Science programs.

Political Science – Pre-Law

One of the traditional routes to law school is a four-year undergraduate degree in Political Science. Students may pursue either the Bachelor of Arts degree in Political Science or Bachelor of Science degree in Political Science as candidates for admission to a school of law. Both degrees retain the values of a liberal education (such as instruction in history, English, and foreign language) and the enhancement of technical skills (including computer science, accounting, and mathematics). With several free electives and an 18-hour minor, the Bachelor of Arts or Science in Political Science affords considerable flexibility in meeting each student's unique educational and career needs.

The Political Science Department Pre-Law advisor assists students in selecting appropriate undergraduate courses, applying for admission to law school and maximizing the chance for success on the Law School Admission Test.

Juniors and seniors may also take part in the State Attorney General's Internship Program and various legislative and local government internships.

Legal Internships – Pre-Law

Exceptional students may qualify for a cooperative education program available in the legal profession. They earn up to six semester hours of elective internship credit in their junior and senior years while working half-days in local law firms. Law office experience is combined with academic assignments to develop skills useful to the potential lawyer. Admission to the program is by permission of the chair of the Department of Political Science and the pre-law advisor.

Bachelor of Arts – Political Science Major

The Bachelor of Arts degree in Political Science emphasizes a traditional liberal arts or humanities curriculum and includes the following requirements:

A. General Requirements:

See core curriculum. Students must have COMM 1315, and must take three additional hours of Math from MATH 1316, 1320, 1325, 1342, 2312, 2376 or higher, and three additional hours of sophomore literature.

B. Major (27 semester hours, 6 in the University core)

Political Science 2304

Political Science 2301-2302 (see University core)

Political Science 3319–Statistics for Social Scientists

Three semester hours from each of the following fields:

American politics (POLS 3301, 3313, 3340, 3350, 3390, 4370)

Political philosophy (POLS 4320, 4330)

International relations (POLS 3320, 3370, 4350)

Comparative politics (POLS 3310, 4360, 4380)

Public administration and policy (POLS 3316, 4300, 4340)

C. Minor (18 semester hours)

An approved minor of 18 semester hours, including at least nine advanced hours.

D. Additional requirements (13 semester hours)

Completion of 2312 in a foreign language (normally 12 semester hours)

One semester of physical activity

E. Electives

A number sufficient to total 121 semester hours (with at least 120 exclusive of physical activity), including 30 advanced (at least 18 in the major); 24 of the 30 advanced hours must be completed at Lamar University.

Suggested Program of Study**Bachelor of Arts in Political Science – Total Min. Hours: 121**

First Year	
Fall Semester	Spring Semester
POLS 2304	English Composition
English Composition	Modern Language
Modern Language	Mathematics (from MATH 1316, 1320, 1325, 1342, 2312, or 2376
MATH 1314	PHIL 1370
Physical Activity	COMM 1315
13	15

Second Year	
Fall Semester	Spring Semester
POLS 2301	POLS 2302
English Literature	English Literature
Modern Language	Modern Language
HIST 1301	HIST 1302
Fine Arts (from HUMA 1315, MUSI 1306, ARTS 1301, THEA 1310, or DANC 2304)	Social Science (from ANTH 2346 or 2351 ECON 1301, PSYC 2301, or SOCI 1301)
15	15

Third Year	
Fall Semester	Spring Semester
POLS 3319	Political Science advanced
Political Science advanced	Laboratory science
Laboratory Science	Minor
Minor	Elective
16	16

Fourth Year	
Fall Semester	Spring Semester
Political Science advanced	Political Science advanced
Minor	Minor
Electives	Electives
15	16

Bachelor of Science – Political Science Major

The Bachelor of Science degree in Political Science emphasizes quantitative skills in the applied social sciences and includes the following requirements:

A. General Requirements:

See core curriculum. Students must have COMM 1315, and must take three additional hours of Math from MATH 1316, 1320, 1325, 1342, 2312, 2376, or higher, and three additional hours of sophomore literature.

B. Major (30 semester hours, 6 in the University core)

Political Science 2304

Political Science 2301-2302 (see University core)

Political Science 3319 - Statistics for Social Scientists

Political Science 3329 - Advanced Research Methods

Three semester hours from each of the following fields:

- American politics (POLS 3301, 3313, 3340, 3350, 3390, 4370)
- Political philosophy (POLS 4320, 4330)
- International relations (POLS 3320, 3370, 4350)
- Comparative politics (POLS 3310, 4360, 4380)
- Public administration and policy (POLS 3316, 4300, 4340)

C. Minor (18 semester hours)

An approved minor of 18 semester hours, including at least nine advanced hours.

D. Additional requirements (13 semester hours)

Computer Science 1371

B.S. core courses: Nine semester hours selected from two of the following areas:

- Accounting 2301-2302
- Economics 2302, 2301, 1301, or advanced
- Mathematics - advanced
- Psychology - advanced
- Computer Science - advanced

One semester of physical activity

E. Electives

A number sufficient to total 121 semester hours (with at least 120 exclusive of physical activity), including 30 advanced (at least 24 in the major); 24 of the 30 advanced hours must be completed at Lamar University.

Suggested Program of Study

Bachelor of Science in Political Science – Total Min. Hours: 121

First Year	
Fall Semester	Spring Semester
POLS 2304	English Composition
English Composition	Mathematics (from MATH 1316, 1320,
Social Science (from ANTH 2346 or 2351	1325, 1342, 2312, or 2376
ECON 1301, PSYC 2301, or SOCI 1301.....	PHIL 1370
MATH 1314	COMM 1315
Physical Activity	Fine Arts (from HUMA 1315, MUSI 1306,
13	ARTS 1301, THEA 1310, or DANC 2304).....
	15
Second Year	
Fall Semester	Spring Semester
POLS 2301	POLS 2302
English Literature	English Literature
HIST 1301	HIST 1302
COSC 1371	B.S. Core Courses
Elective	15
15	
Third Year	
Fall Semester	Spring Semester
POLS 3319	POLS 3329
Political Science advanced	Political Science advanced
Laboratory Science	Laboratory Science
Minor	Minor
B.S. Core Course	16
16	

Fourth Year	
Fall Semester	Spring Semester
Political Science advanced	3
Minor	6
Electives.....	7
	16
15	

Bachelor of Science – Political Science Major with Social Studies Teacher Certification

Students wishing to earn the Bachelor of Science in Political Science and at the same time certify with Social Studies as a teaching field must meet the following requirements:

A. General Requirements:

See core curriculum. Students must take three additional hours of Math from MATH 1316, 1320, 1325, 1342, 2312, 2376, or higher, and three additional hours of sophomore literature. Lab Science must include eight hours in the same science; Communication must be 1315 or 3310. Social Science course must be ECON 2301.

B. Major (24 semester hours, 6 in University core)

Political Science 2304

Political Science 2301-2302 (see University core)

Three semester hours from each of the following fields:

American politics (POLS 3340, 4370)

Political philosophy (POLS 4320, 4330)

International relations (POLS 3320, 3370, 4350)

Comparative politics (POLS 3310, 4360, 4380)

Public administration and policy (POLS 3316, 4300, 4340)

C. Composite Social Studies (30 semester hours)

HIST 2301, HIST 3301, HIST 3302, HIST 3303, HIST 3321, HIST 3322, ECON 3340, FINC 3306, SOCI 3302, SOCI 3306

D. Pedagogy (24 semester hours)

PEDG 3310, 3320, 3380, 4380 and 4920; READ 3326

E. Foundation requirements (9 semester hours)

Political Science 2330 - Political Geography

Political Science 3319 - Statistics for Social Scientists

Political Science 3329 - Advanced Research Methods

F. Additional requirement (one semester hour)

One semester of physical activity

G. The minimum number of semester hours required for the Bachelor of Science in Political Science with Social Studies teacher certification is 129 (with at least 128 exclusive of physical activity), including 30 advanced, at least 24 of which must be completed at Lamar University.

**Suggested Program of Study
 Bachelor of Science in Political Science with Social Studies Teacher
 Certification – Total Min. Hours: 129**

First Year	
Fall Semester	Spring Semester
POLS 2304 3	English Composition 3
English Composition 3	Mathematics (from MATH 1316, 1320, 3
MATH 1314 3	1325, 1342, 2312, or 2376
PHIL 1370 3	Social Science (ECON 2301) 3
COMM 1315 or 3310 3	HIST 1301 or 1302 3
Physical Activity 1	Fine Arts (from HUMA 1315, MUSI 1306, ARTS 1301, THEA 1310, or DANC 2304) 3
16	15

Second Year	
Fall Semester	Spring Semester
POLS 2301 3	POLS 2302 3
English Literature 3	POLS 2330 3
HIST 1301 3	English Literature 3
HIST 3301 3	HIST 3302 3
Lab Science 4	Laboratory Science 4
16	16

Third Year	
Fall Semester	Spring Semester
POLS 3319 3	POLS 3329 3
Political Science advanced 6	Political Science advanced 3
SOCI 3302 3	ECON 3340 3
READ 3326 3	FINC 3306 3
SPED 2310 3	PEDG 3310, 3320 6
18	18

Fourth Year	
Fall Semester	Spring Semester
Political Science advanced 6	PEDG 3380, 4380, 4650 12
HIST 3303, 3321, 3322 9	
SOCI 3306 3	
18	12

Minor in Political Science (No grade less than “C”)

An 18 hour Political Science minor consists of nine hours of lower division courses plus nine hours of advanced courses. The lower division courses are:

- POLS 2301 Introduction to American Government I
- POLS 2302 Introduction to American Government II
- POLS 2304 Introduction to Political Science

The nine hours of advanced work may be chosen from among the department’s offerings at the 3000 and 4000 levels, *excluding* POLS 4310 (Directed Study) and internships.

Political Science Courses (POLS)

2301	Introduction to American Government I The national and Texas constitutions; federalism; political socialization and participation; public opinion and interest groups; parties, voting and elections. <i>Prerequisite: Sophomore standing.</i>	3:3:0
2302	Introduction to American Government II The legislative, executive and judicial branches and the bureaucracy; policy formulation and implementation including civil rights and civil liberties, domestic and foreign policies. <i>Prerequisite: POLS 2301.</i>	3:3:0
2304	Introduction to Political Science An introductory survey of the concepts, techniques, and methods for analyzing the political behavior of individuals, groups, and nations.	3:3:0
2330	Political Geography A survey of the impact of cultural factors on evolving political systems from a global and comparative perspective.	3:3:0
3210	Legal Internship I Practical experience in law office procedure and operation with career related assignments and projects under the guidance of a faculty member. <i>Prerequisite: Approval of pre-law advisor.</i>	2:2:0
3220	Legal Internship II Practical experience in law office procedure and operation with career related assignments and projects under the guidance of a faculty member. <i>Prerequisite: Approval of pre-law advisor, POLS 3210.</i>	2:2:0
3230	Legal Internship III Practical experience in law office procedures and operation with career related assignments and projects under the guidance of a faculty member. <i>Prerequisite: Approval of pre-law advisor, POLS 3220.</i>	2:2:0
3301	Legislative Process The structure, functioning and political control of legislative bodies.	3:3:0
3310	Introduction to Comparative Politics A general survey of the field of comparative politics.	3:3:0
3313	Judicial Process The theory and structure of the American court system; its personnel and decision-making processes; the judicial process in the setting of the American criminal justice system.	3:3:0
3316	Introduction to Public Administration American public administration, with emphasis on modern problems and trends.	3:3:0
3319	Statistics for Social Scientists Basic concepts and techniques of statistics employed in social science research including descriptive statistics; measures of central tendency and dispersion; correlation and regression analysis; inductive statistics; fundamentals of probability and tests of significance.	3:3:0
3320	International Politics The concepts underlying the Western State system; nationalism and imperialism; the techniques and instruments of power politics and the foreign policies of selected states.	3:3:0
3329	Advanced Research Methods Special problems, topics, cases, models, and theories in political science research. <i>Prerequisite: POLS 3319</i>	3:3:0
3340	American Political Parties and Interest Groups Political parties in terms of their theory, their history and their place in contemporary American politics; analysis of the role of economic and other groups in American politics; group organization and techniques of political influence.	3:3:0
3350	American Presidency The operation of the presidency in foreign and domestic decision-making, including political, social and economic policy areas.	3:3:0
3370	Politics of American Foreign Policy United States foreign policy; its domestic sources; the instruments of American diplomacy; United States involvement in world politics and the limitations and potentials of American foreign policy.	3:3:0

- 3390 Urban Politics** 3:3:0
Organization and development of urban governments in the United States. Interrelationships among urban problems, political behavior and policy.
- 4300 Organization Theory and Behavior** 3:3:0
Structural and management aspects of public administration, theory and practice; policy formation processes and techniques.
- 4310 Directed Study**
Students may study individually with an instructor in an area of mutual interest to the student and the instructor.
Prerequisite: Approval of department chair.
- 4320 Political Thought I** 3:3:0
Western political thought from ancient Greece to the 17th Century.
- 4330 Political Thought II** 3:3:0
Political philosophy from the 18th Century to the present with emphasis on contemporary theorists.
- 4340 Formulation of Public Policy** 3:3:0
The demands for public action on policy issues; organization and nature of political support; processes and problems of decision making in the formulation of public policy in the United States. The issues studied will vary.
- 4350 International Law and Institutions** 3:3:0
Political, legal and institutional foundations of the modern international system, including the United Nations. Emphases include peaceful settlement of international disputes and the developing global system.
- 4360 Politics of Western Democracies** 3:3:0
Political institutions, political processes, and public policies of western democracies.
- 4370 American Constitutional Law and Development** 3:3:0
Development of the American Constitution through judicial interpretations. Particular emphasis on cases dealing with federalism, commerce, the three branches of government, due process, civil rights, and civil liberties.
- 4380 Politics of Developing Nations** 3:3:0
Political systems of Latin America, Africa, the Middle East, and Asia, focusing on ideologies, interest groups, political parties, and problems of political development.
- 4390 Special Topics in Political Science** 3:3:0
Selected special topics from the subfields of political science. Course may be repeated for credit when the topic varies.

Department of Psychology

Department Chair: Randolph A. Smith

**203 Social and Behavioral
Sciences Building, Phone 880-8285**

Emeritus Professors: Bell, Walker

Professor: Esser

Associate Professors: Fitzpatrick, Lindoerfer

Assistant Professors: Kirk, Mann, Rabalais, Rinker, Shelton

Lecturers: Johnson, Lewis

Psychology is the scientific study of behavior and mental processes and, as such, is a diverse field that touches all aspects of human endeavor. The objectives of the Department of Psychology are to provide students with current knowledge through learning experiences in and out of the classroom which will increase critical-thinking skills, equip them with research methodology, and prepare them for employment in business, education, community agencies, other professional areas, or graduate school.

Admission to Department of Psychology Programs

Students wishing to major in psychology must present SAT/ACT scores of 900/19. Students changing their major to psychology must have SAT/ACT scores and be in good standing in the University.

Bachelor of Arts – Psychology Major

The degree of Bachelor of Arts in Psychology will be awarded upon completion of the following:

A. General Requirements

See core curriculum and degree requirements. Plus eight semester hours of Biology (1406-1407, 1408-1409, or 2401-2402), 12 semester hours and completion of 2312 course in foreign language or 9 hours of sign language and completion of CMDS 4305, an additional 3 hours of math, and an additional 3 hours of fine arts.

B. Major

Psychology 2301 General Psychology

Psychology 2471 Introduction to Statistical Methods

Psychology 3420 Methods in Psychology

Psychology: an additional 18 semester hours, a minimum of 12 semester hours must be at the advanced level

C. Minor (18 semester hours)

An approved minor of at least 18 semester hours; a minimum of 9 semester hours must be on the advanced level

D. Electives

A sufficient number of approved electives to complete a total of 121 semester hours

E. Completion of Major Field Achievement Test

F. Meet all remaining general education degree requirements of the University and College as described under the Academic Policies and Procedures section of this catalog which are not listed above.

Suggested Program of Study – Total Min. Hours: 121

The following is a recommended program of study for completion of the degree plan in the minimum semester hours with the specified option. Additional requirements may be required for specialized areas, such as, preparation for graduate school, certifications, or licensures. Please see a program advisor or the department chair for details.

First Year

Fall Semester

Biology Lab Science	4
PSYC 2301 General Psychology.....	3
ENGL 1301 Composition I	3
Modern Language.....	3
Math from the Core Curriculum	3

16

Spring Semester

Biology Lab Science	4
PHIL 1370 Philosophy of Knowledge.....	3
ENGL 1302 Composition II	3
Physical Activity.....	1
Modern Language.....	3
Math from the Core Curriculum	3

17

Second Year

Fall Semester

English Literature.....	3
Fine Arts from the Core Curriculum	3
Modern Language	3
HIST 1301 US History (1783-1877)	3
PSYC 2471 Intro. to Statistical Methods	4

16

Spring Semester

English Literature.....	3
Fine Arts from the Core Curriculum	3
Modern Language.....	3
HIST 1302 US History (since 1877)	3
Communication from the Core Curriculum.....	3

15

Third Year

Fall Semester

POLS 2301 American Government I	3
PSYC 3420 Methods in Psychology.....	4
Psychology Advanced.....	3
Minor.....	3
Elective	3

16

Spring Semester

POLS 2302 American Government II	3
Psychology Advanced.....	6
Minor	6

15

Fourth Year

Fall Semester

Psychology Advanced.....	6
Minor	3
Elective	6

15

Spring Semester

Psychology Advanced.....	3
Minor	6
Elective	2

11

Bachelor of Science – Psychology Major

The degree of Bachelor of Science in Psychology will be awarded upon completion of the following:

A. General Requirements

See core curriculum. Plus, eight semester hours of Biology (1406-1407, 1408-1409, or 2401-2402); eight semester hours of physical science (two lab courses); three hours of Computer Science; three additional hours of math above MATH 1314, and a three-hour, sophomore-level literature course or three-hour language course (includes American sign language).

- B. Major
 - Psychology 2301 General Psychology
 - Psychology 2471 Introduction to Statistical Methods
 - Psychology 3420 Methods of Psychology
 - Psychology 4430 Experimental Psychology
 - Psychology: an additional 18 semester hours, to include nine semester hours selected from Psychology 3310, 3320, 3330, 3340, and 4320 and nine semester hours selected from Psychology 3360, 4310, 4360 and 4380.
- C. Minor
 - An approved minor of 18 semester hours; a minimum of 9 semester hours must be on the advanced level
- D. Electives
 - A sufficient number of approved electives to complete a total of 121 semester hours
- E. Completion of Major Field Achievement Test
- F. Meet all remaining general education degree requirements of the University as described under the Academic Policies and Procedures section of this catalog which are not listed above.

Suggested Program of Study – Total Min. Hours: 121

The following is a recommended program of study for completion of the degree plan in the minimum semester hours with the specified option. Additional requirements may be required for specialized areas, such as, preparation for graduate school, certifications, or licensures. Please see a program advisor or the department chair for details.

First Year

Fall Semester	Spring Semester
Biology Lab Science 4	Biology Lab Science 4
PSYC 2301 General Psychology..... 3	PHIL 1370 Philosophy of Knowledge..... 3
ENGL 1301 Composition I 3	ENGL 1302 Composition II 3
Elective 3	Physical Activity..... 1
Math from the Core Curriculum 3	Math from the Core Curriculum 3
<u>16</u>	<u>14</u>

Second Year

Fall Semester	Spring Semester
English Literature 3	English Literature or Modern Language..... 3
Fine Arts from the Core Curriculum 3	Computer Science 3
POLS 2301 American Government I 3	POLS 2302 American Government II 3
HIST 1301 US History (1783-1877) 3	HIST 1302 US History (since 1877) 3
PSYC 2471 Intro. to Statistical Methods 4	Communication from the Core Curriculum..... 3
<u>16</u>	<u>15</u>

Third Year

Fall Semester	Spring Semester
Lab Science 4	Lab Science..... 4
PSYC 3420 Methods in Psychology..... 4	Psychology Advanced 6
Psychology Advanced 3	Minor 6
Minor 3	
<u>14</u>	<u>16</u>

- 2301 General Psychology** 3:3:0
An introductory survey of the major areas of psychology such as learning, personality, social, testing, developmental and physiological. Emphasis is on psychology as the scientific study of behavior and includes both human and animal behavior.
- 2308 Child Psychology** 3:3:0
A study of the growth and development of behavior patterns in children.
- 2311 Adult Development and Aging** 3:3:0
A survey of major issues in adult development and aging including biological, cognitive, personality, social and disease factors.
Prerequisite: Grade of "C" or better in PSYC 2301 or 2308.
- 2471 Introduction to Statistical Methods** 4:3:2
Statistical concepts and techniques used in behavioral science research. Topics include graphs, measures of position, central tendency and dispersion, correlation and regression, probability, tests of significance and introduction to non-parametric techniques.
Prerequisite: Grade of "C" or better in MATH 1314 or higher.
- 3310 Systems and History of Psychology** 3:3:0
Historical development of psychology. Emphasis on the evolution of major systems of psychology.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 3320 Psychology of Personality** 3:3:0
A study of several of the major theories of personality organization and adjustment processes.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 3330 Psychology of Social Interaction** 3:3:0
Investigation of psychological basis of interpersonal behavior. Emphasis is on the study of individual experience and behavior in relation to the social environment, and how individual behavior both affects and is affected by social interaction.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 3340 Industrial Psychology** 3:3:0
Introduction to psychological processes and techniques as they apply in industrial settings. Emphasis on selecting, training and evaluating workers. Emphasis also on organizational influences on behavior.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 3360 Psychological Tests and Measurements** 3:3:0
Theory and use of instruments for measurements of intelligence, interests, aptitude and attitudes.
Prerequisite: Grade of "C" or better in PSYC 2301 and PSYC 2471 or BUAL 3320 or equivalent, or permission of instructor.
- 3420 Methods in Psychology** 4:3:2
An introduction to the methods of research employed in the scientific study of behavior. Topics include nature and philosophy of science, experimental design, data analysis and report writing. Several demonstrations are conducted and reported by students.
Prerequisite: Grade of "C" or better in PSYC 2301 and 2471.
- 4100, 4300 Undergraduate Research** 1-3:A:0
Designed to provide an opportunity for advanced psychology students to pursue an individual research project under the direction and supervision of a faculty member. May be repeated for credit.
Prerequisite: Grade of "C" or better in 9 hours of psychology and permission of instructor.
- 4301 Special Topics** 2-3:A:0
Includes library and/or laboratory work and conferences with a faculty member. A description of the particular area of study will be indicated. A student may repeat the course for credit when the area of study varies.
Prerequisite: Permission of instructor.
- 4310 Sensation and Perception** 3:3:0
A review of research and theory regarding the structure and function of the basic sensory processes and sensory perception.
Prerequisite: Grade of "C" or better in PSYC 2301 and 2471.
- 4320 Abnormal Psychology** 3:3:0
A study of abnormal behavior. Special emphasis on the symptomatology, etiology and therapeutic approaches.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 4360 Learning and Cognition** 3:3:0
Theories and research concerning learning and cognitive processes, with a consideration of practical implications.
Prerequisite: Grade of "C" or better in PSYC 2301.
- 4380 Behavioral Neuroscience** 3:3:0
Survey of the biological bases of behavior with emphasis on the mechanisms in the central nervous system.
Prerequisite: Grade of "C" or better in PSYC 2301 and at least one biology course.
- 4430 Experimental Psychology** 4:3:2
Techniques to demonstrate and investigate concepts in psychology. Includes planning and executing an original research project.
Prerequisite: Grade of "C" or better in PSYC 3420.

Department of Sociology, Social Work and Criminal Justice

Department Chair: Li-chen Ma

55 Maes Building, Phone 880-8538

Emeritus Professor: Robert L. Frazier

Professors: Altemose, Birdwell, Ma, Smith, Wright

Associate Professors: Monroe

Assistant Professors: Chang, Mann, May, Robertson, Saur

Visiting Assistant Professor: Lin

Instructors: Tomplait

Lecturer: Daniel, Wallace, Webb

Coordinator, Child Welfare Project: Tomplait

Sociology social work and criminal justice is a multidisciplinary department, consisting of four academic programs: sociology, anthropology, social work, and criminal justice. Each has its own unique mission. The common general mission of the four programs is to provide high-quality education through baccalaureate programs in sociology, social work, and criminal justice, a master's in applied criminology, and a minor in anthropology. All programs emphasize excellence in instruction, research and scholarship, professional development, university and community service, and the preparation of students for graduate and/or professional education. For additional information about the Department of Sociology, Social Work and Criminal Justice, visit our website: <http://dept.lamar.edu/ssc/homepage.html>

Departmental Academic Policies

1. A grade of "C" or higher for each course in the major field (including transfer courses) is required for graduation.
2. Each student's use of English is subject to review up to and including the semester in which he or she is scheduled to graduate. Any faculty member who identifies a departmental major having poor English skills will notify the student and the department chair in writing. The department chair will then review writing samples and consult with the Director of Freshman English. Based on the recommendations of the Director of Freshman English and the department chair, additional diagnostic procedures and course work may be required before the student is recommended for graduation.
3. Students who wish to transfer into the department as sociology, criminal justice, or social work majors must have a minimum 2.00 grade point average. All department majors must maintain a 2.00 or better G. P. A. to remain in their respective programs.
4. The departmental academic probation and suspension policy is identical to that of the College of Arts and Sciences and is available from the office of the dean or department chair.
5. Students who are majoring in this department and who are on academic probation or returning from academic suspension may not enroll in more than 12 semester hours (13-15 hours if a laboratory course and P.E. are taken) in any semester.

6. All departmental majors (full-time and part-time) must have satisfied both the University's and the College of Arts and Sciences' requirements for English composition and mathematics before registering for 300- and 400-level courses offered by the department.

Pre-Law

As prospective candidates for admission to a school of law, students may pursue one of the bachelor's degrees offered by the department. The degree plan may include any of the following courses as electives or a minor:

- Criminal Justice 1306 — Court System and Practices
- Criminal Justice 1310 — Fundamentals of Criminal Law (pending final approval)
- Criminal Justice 3300 — Advanced Criminal Law
- Criminal Justice 3310 — Criminal Procedure and Evidence
- Criminal Justice 3380 — Correctional Law
- Criminal Justice 4300 — Legal Research, Brief Writing and Oral Advocacy
- Political Science 4370 — American Constitutional Law and Development
- Business Law 3310 — Business Law
- Business Law 4340 — Advanced Legal Principles

Sociology

Program Director: Li-chen Ma

65 Maes Building, Phone 880-8545

The mission of the program is to provide undergraduates with scientific knowledge of the structures, forms, and dynamics of human interaction within a broadly-based liberal arts education. The program emphasizes the research methods used to acquire data, test hypotheses, conduct analyses, and evaluate information. In addition students are prepared to critically consider social problems such as crime, unemployment, violence, urban decay, and poverty. In our complex, technical and multicultural world, sociology equips students to understand the importance of empirical research from which to evaluate societal needs and inform public policy.

The program is committed to baccalaureate programs which create liberating educational experiences for each major. Under the personal and concerned guidance of faculty, students matriculate in one of two baccalaureate programs – the bachelor's of science or the bachelor's of arts.

Sociology is the study of social life and the social causes and consequences of human behavior. Sociology's subject matter ranges from the intimate family to the hostile mob, from crime to religion, from the division of race and social class to the shared beliefs of a common culture, from the sociology of religion to the sociology of medicine. Sociology is a popular major for students planning futures in such professions as law, business, education, politics, public administration, and even medicine. The research interests of Lamar's sociology faculty include social stratification, criminology, alienation, gender roles, sociology of education, sociology of religion, and family structure and functioning. The Bachelor of Science degree is designed for students whose interests are more quantitative, while the Bachelor of Arts offers a traditional liberal arts education.

Bachelor of Science – Sociology Major

The degree of Bachelor of Science in Sociology will be awarded upon completion of the following requirements:

- A. General Requirements:
See core curriculum, p. 15. Math requirement: MATH 1314 plus a statistics course (4 credit hours).
- B. Major – 34 semester hours to include:
 SOCI 1301 – Introduction to Sociology
 One of the following elective courses:
 SOCI 3306 – Race and Ethnic Relations
 SOCI 3310 – Sociology of Gender
 SOCI 3365 – Social Stratification
 SOCI 4310 – Population Problems
 SOCI 4380 – Research Methods
 SOCI 4385 – Data Analysis
 SOCI 4390 – Social Theory
 SOCI 4110 – Proseminar
- C. Departmental Requirements - 12 semester hours to include:
 Three career development courses (CDC) with approval by advisor
 Computer Science - COSC 1371
- D. Minor - an approved minor of 17 semester hours, nine of which must be at an advanced level.
- E. Electives - Sufficient approved electives to satisfy University minimum hour requirements for graduation.

Suggested Program of Study – Total Min. Hours: 121

First Year

First Semester	Second Semester
ENGL 1301..... 3	ENGL 1302 or 1374 or 135..... 3
MATH 1314 3	MATH 1342 or PSYC 2471..... 3
Lab Science..... 4	Lab Science..... 4
PHIL 1370 3	Sociology 3
SOCI 1301 3	PEGA..... 1
16	14

Second Year

First Semester	Second Semester
English Literature 3	HIST 1302..... 3
HIST 1301 3	Fine Arts 3
CDC 3	CDC 3
Computer Science 3	Sociology Advanced 3
Sociology 3	Minor/Electives 3
15	15

Third Year

First Semester	Second Semester
POLS 2301 3	POLS 2302 3
COMM 1315..... 3	CDC 3
Sociology Advanced..... 3	Sociology Advanced 6
Minor/Electives 6	Minor/Electives..... 3
<u>15</u>	<u>15</u>

Fourth Year

First Semester	Second Semester
SOCI 4380 3	SOCI 4390 3
SOCI 4110 1	SOCI 4385 3
Minor/Electives 12	Minor/Electives 9
<u>16</u>	<u>15</u>

Bachelor of Arts – Sociology Major

The degree of Bachelor of Arts in Sociology will be awarded upon completion of the following requirements:

A. General Requirements:

Meet the University's core curriculum requirements for a bachelor's degree which are described earlier in this bulletin and satisfy all departmental requirements.

Completion of the 2312 course in a foreign language.

Literature - Six semester hours

B. Departmental requirements:

The requirements concerning major, departmental requirements, minor, and electives are the same as for the Bachelor of Science degree listed above.

Suggested Program of Study – Total Min. Hours: 121**First Year**

First Semester	Second Semester
ENGL 1301..... 3	ENGL 1302 or 1374 3
MATH 1314 3	MATH 1342 or PSYC 2471..... 3
Modern Language 1311 or 1313..... 3	Lab Science..... 4
PHIL 1370 3	Modern Language 1312 or 1314 3
SOCI 1301 3	Sociology 3
<u>15</u>	<u>16</u>

Second Year

First Semester	Second Semester
English Literature 3	English Literature 3
HIST 1301 3	HIST 1302 3
Modern Language 2311 3	Modern Language 2312 3
Lab Science 4	Fine Arts 3
Sociology 3	Sociology Advanced 3
Physical Activity 1	
<u>17</u>	<u>15</u>

Third Year

First Semester		Second Semester	
POLS 2301	3	POLS 2302	3
CDC	3	CDC	3
CDC	3	Computer Science	3
Sociology Advanced.....	3	Sociology Advanced	6
Minor/Elective.....	3		
	15		15

Fourth Year

First Semester		Second Semester	
COMM 1315.....	3	SOCI 4390.....	3
SOCI 4380.....	3	SOCI 4385.....	3
SOCI 4110.....	1	Minor/Electives	9
Minor/Electives	6		
	13		15

Minor In Sociology (No grade less than “C”)

Total of 18 hours required for the minor.

Three required courses from lower division:

- SOCI 1301 - Introduction to Sociology
- SOCI 1306 - Social Problems
- SOCI 2301 - Marriage and the Family

Three courses from upper division:

Two required courses:

- SOCI 4380 - Research Methods
- SOCI 4390 - Social Theory

And one of the following:

- SOCI 3306 - Race and Ethnic Relations
- SOCI 3310 - Sociology of Gender
- SOCI 3311 - Medical Sociology
- SOCI 3330 - Urban Sociology
- SOCI 3360 - Social Stratification
- SOCI 3380 - Criminology
- SOCI 4310 - Population Problems
- SOCI 4320 - Sociology of Education
- SOCI 4340 - Social Change and Movement
- SOCI 4350 - Sociology of Religion

Any other approved, advanced-level sociology courses

Social Work

Program Director: Vernice M. Monroe

56A Maes Building, Phone 880-8552

The Lamar University Social Work Program prepares graduates for generalist social work practice. The program is accredited by the Council on Social Work Education which entitles the BSW graduate to apply for licensure as a Licensed Baccalaureate Social Worker (LBSW). The primary mission of the social work profession is to enhance well-being and help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are vulnerable, oppressed, and living in poverty. Social workers promote social justice and social change with, and on behalf of, individuals, families, groups, organizations and communities (*National Association of Social Workers Code of Ethics*). The research/training interests of Lamar’s social work faculty include family violence, child welfare, multicultural practice, developmental disabilities, social work education and social welfare policy.

Bachelor of Social Work

The Bachelor of Social Work (BSW), which prepares students for entry-level professional social work practice, will be awarded upon completion of the following requirements:

- A. General Requirements:
See core curriculum, p. 15. The lab science courses must be biology. Math requirement: Math 1314 plus a statistics course.
- B. Major - 42 semester hours to include:
Social Work 2361, 2371, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 4320, 4321, 4324, 4380 plus at least one three-hour elective (SOWK 4320).
- C. Departmental Requirements - 21 semester hours
Sociology 1301, 1306
Psychology 2301, and 2308 or 2311
Criminal Justice or Anthropology
Computer Science 1371
Elective
- D. Approved Electives: 12 semester hours
Students, with faculty advisor approval, must select any approved electives in related disciplines.

Note: Mandatory advisement every semester for all social work majors

Suggested Program of Study – Total Min. Hours: 120

First Year

First Semester	
ENGL 1301.....	3
Math.....	3
BIOL 1408.....	4
SOCI 1301.....	3
Physical Activity.....	1
	14

Second Semester	
ENGL 1302 or 1374.....	3
BIOL 1409.....	4
PSYC 2301.....	3
COMM 1315.....	3
Criminal Justice/Anthropology.....	3
	16

Second Year

First Semester

PHIL 1370	3
HIST 1301	3
Fine Arts	3
SOCI 1306	3
SOWK 2361	3
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	15

Second Semester

English Literature	3
HIST 1302	3
PSYC 2308 or 2311	3
POLS 2301	3
SOWK 2371	3
	<hr/>
	15

Third Year

First Semester

Computer Science	3
POLS 2302	3
Approved Electives	6
	<hr/>
	12

Second Semester

SOWK 3300	3
SOWK 3310	3
SOWK 3340	3
PSYC 2471 or Statistics	3
Approved Elective	3
	<hr/>
	15

Fourth Year

First Semester

SOWK 3320	3
SOWK 3330	3
SOWK 4380	3
SOWK 3360	3
Approved Elective	3
	<hr/>
	15

Second Semester

SOWK 3350	3
SOWK 4320	3
SOWK 4320	3
Approved Electives	3
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	12

Summer Semester I

SOWK 4321	3
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Summer Semester II

SOWK 4324	3
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Minor in Social Work (Grade of “C” or above required in social work courses)

Total of 18 hours are required for a minor in Social Work

Required lower division classes:

SOWK 2361

SOWK 2371

PLUS any additional 12 hours in Social Work

Second Year

First Semester		Second Semester	
English Literature	3	Fine Arts	3
HIST 1302	3	Criminal Justice/Criminology	3
Lab Science	4	Lab Science	4
POLS 2301	3	POLS 2302	3
Criminal Justice	3	COMM 1315	3
	16		16

Third Year

First Semester		Second Semester	
CRIJ 2328	3	Social Science	3
Quantitative Analysis	3	COSC 1371	3
Criminal Justice Advanced	3	Methods	3
Electives	6	Electives	6
	15		15

Fourth Year

First Semester		Second Semester	
CRIJ 4311	3	CRIJ 4340	3
Criminal Justice Advanced	6	Criminal Justice Electives Advanced	3
Criminal 4321	3	Elective Advanced	3
Elective Advanced	3		
	15		9

Bachelor of Arts – Criminal Justice Major

The Bachelor of Arts in Criminal Justice will be awarded upon the completion of the following requirements:

- A. General Requirements:
Meet the University’s core curriculum requirements for a Bachelor of Arts degree, which are described earlier in this catalog, and satisfy all departmental requirements
- B. Departmental Requirements:
Criminal Justice Core, Social Science Cognates and Research/Analysis requirements are the same as those listed for the Bachelor of Science in Criminal Justice.
- C. Modern language: 12 hours
- D. Minor: at least 18 hours
Some minors may require more credit hours.

Suggested Program of Study – Total Min. Hours: 123**First Year**

First Semester	Second Semester
ENGL 1301..... 3	ENGL 1302 or 1374 3
MATH 1314 or Higher..... 3	Math/Data..... 3
CRIJ 1301 3	Social Science 3
PHIL 1370 3	CRIJ 2313 3
CRIJ 1306 3	Criminal Justice elective 3
Physical Activity 1	HIST 1301 3
16	18

Second Year

First Semester	Second Semester
English Literature..... 3	Fine Arts 3
HIST 1302..... 3	Criminal Justice/Criminology..... 3
Lab Science..... 4	Lab Science..... 4
POLS 2301 3	POLS 2302 3
CRIJ 2313 3	COMM 1315 3
16	16

Third Year

First Semester	Second Semester
Modern Language 1311 or 1313..... 3	Modern Language 1312 or 1314 3
Criminal Justice Advanced 3	English Literature..... 3
Minor 6	Methods 3
Criminal Justice Elective..... 3	Minor 3
15	15

Fourth Year

First Semester	Second Semester
Modern Language 2311 3	Modern Language 2312 3
CRIJ 4340 6	Minor Advanced 3
Minor Advanced..... 3	CRIJ 4311 3
CRIJ 4321 3	Criminal Justice..... 3
15	12

Minor in Criminal Justice (No grade less than “C”)

Total of 18 hours required for the minor

Three lower division courses:

Required Courses:

CRIJ 1301

CRIJ 1306

And one of the following courses:

CRIJ 1310

CRIJ 2313

CRIJ 2328

Plus any three (3) upper division CRIJ courses

Anthropology

Faculty Advisor: Carolyn Shelton-Wallace

54 Maes Building, Phone 880-8551

The mission of **Anthropology** at Lamar University is threefold: 1) to provide a minor in anthropology to undergraduate students; 2) to support general education, and 3) to advance higher learning through both research and instruction. The minor in Anthropology adds cultural breadth to almost any major field and can also effectively prepare a student for graduate work in anthropology. Anthropology supports general education both through the Core Curriculum (ANTH 2346 and ANTH 2351) and through course content throughout the anthropology curriculum, which focuses strongly on the relevance of anthropology to modern life in a multicultural, global community. Faculty in anthropology maintain an active program of original research, which is of direct benefit to curriculum and instruction.

Anthropology 2346 or 2351 satisfies the social science requirement of the University Core Curriculum. A minor in anthropology is a useful complement to majors in sociology, social work, criminal justice, history, psychology, and other fields. Interested students are invited to consult with the faculty advisor in anthropology.

Minor in Anthropology (No grade less than “C”)

Total of 18 hours required for the minor.

Required Courses (recommended in this sequence):

ANTH 2346

ANTH 2351

ANTH 2302 or 2372

Three from the following:

ANTH 3301

ANTH 3302

HNRS 3360 (Independent Study - supervised by Anthropology faculty)

ANTH 4340 (may be repeated, if topic varies)

Sociology Courses (SOCL)

1301	Introduction to Sociology An overview of major subjects in sociology, including sociological perspective, culture, social interaction, social stratification, gender, race and ethnicity, social groups, organizations, family, religion, population, urbanization and social changes.	3:3:0
1306	Social Problems This course applies sociological principles to the numerous explanations of and potential solutions to contemporary social problems. The course seeks to develop critical thinking skills in addressing social concerns ranging from drug addiction and violence to inequalities of class, race, and gender.	3:3:0
2301	Marriage and the Family This class critically examines traditional and contemporary families including controversies regarding single-parent families, alternative lifestyles, “working women,” reproductive rights, “father’s rights,” and their public policy implications.	3:3:0
2326	Social Psychology Theory and research that examines human interaction within social relationships. Topics include socialization, attitudes, group dynamics, altruism, aggression and interpersonal attraction.	3:3:0

- 3301 Integrated Social Studies I** **3:3:0**
 This course facilitates excellence in teachers by exploring the interdisciplinary study of integrated social studies curricula including history, geography, economics, government, citizenship, culture, and science, technology and society.
Prerequisite: Completed core course; admission to teacher education program/for Interdisciplinary Studies majors only
- 3302 Integrated Social Studies II** **3:3:0**
 Focuses on development of strategies, methods, and skills needed to teach integrated social studies curricula including history, geography, economics, government, citizenship, culture, and science, technology, and society.
Prerequisite: Completed SOCI 3301/for Interdisciplinary Studies majors only
- 3306 Race and Ethnic Relations** **3:3:0**
 This course examines the impact of race and ethnicity upon the distribution of power, opportunity, and privilege in a global world. Major theoretical perspectives on racial and ethnic prejudice and discrimination will be examined along with diverse patterns of interracial and interethnic contact, which develop in different societies.
- 3310 Sociology of Gender** **3:3:0**
 This course takes a social constructionist view of gender. Students will examine the ways in which masculinity and femininity are constructed in Western society as well as the different forms it takes around the world.
- 3311 Medical Sociology** **3:3:0**
 Study of the social and demographic influences on health and diseases, social epidemiology, health care professions, alternative medicine, US health care system and crises, and health care systems in other societies.
- 3330 Urban Sociology** **3:3:0**
 Study of the city growth and urbanization in the United States and the world, the urban ecological structure and process, urban sprawl, education, crime, transportation, and various urban problems.
- 3340 Sociology of Human Sexuality** **3:3:0**
 Investigates sociological explanations of human sexuality using a gender constructionist framework. Trends in sexual attitudes will be explored, along with issues of sexual expression/desire, gender socialization, sexual aggression and sexual diversity.
- 3365 Social Stratification** **3:3:0**
 Theory and research that examines historical and current patterns of social inequality, class, differentiation and mobility. Power, status and socioeconomic variations among groups and populations are explored.
Prerequisite: SOCI 1301 or permission of the instructor.
- 3380 Criminology** **3:3:0**
 Nature and significance of criminality; significance of race, ethnicity, and gender on arrest statistics, perceptions, and public knowledge of crime; etiology of illegal behavior; trends in social reactions to crime and criminals; evolution of biological, psychological, and sociological theories of criminal behavior.
- 3390 Juvenile Delinquency** **3:3:0**
 An overview of the criminological theories regarding juvenile offending and the juvenile justice system. Attention is given to the history, development, and roles of theoretical positions and practices in the area of juvenile delinquency.
- 4110 Proseminar in Sociology** **1:1:0**
 One credit-hour capstone seminar for graduating seniors. The course provides a forum for faculty and seniors to meet and discuss contemporary issues and concerns in the discipline.
- 4300 Seminar in Sociology** **3:3:0**
 Focus on a selected topic of contemporary concerns and significance in sociology. The course may be repeated for credit when the topic varies.
- 4301 Directed Studies in Sociology** **3:A:0**
 Individual study with an instructor in a subject area of mutual interest. May be repeated for credit when subject varies.
- 4310 Population Problems** **3:3:0**
 Introduction to theories, concepts and issues of population study, with emphasis on trends, compositions, and implications of social problems.
- 4320 Sociology of Education** **3:3:0**
 To examine the educational institution as a social system from different sociological perspectives. The course also addresses the major issues and problems in schools today.
- 4340 Change and Social Movements** **3:3:0**
 This course examines the role of social movements as important vehicles of societal change. It explores how and why ordinary people erupt into the streets and try to exert power in confrontations with elites, authorities or opponents, as well as the impact these confrontations have on the public, the media and the state.
- 4350 Sociology of Religion** **3:3:0**
 Using the conceptual tools of sociology, we examine religious beliefs, practices, symbols, and rites, as well as the formation of religious movements, sects, and institutionalization. The course will also address how religion intersects with social class, gender, race and ethnicity.

- 4380 Research Methods** **3:3:0**
 Philosophy and methods of social research, including research design, methods of data collection, data analysis and uses of other sources of social data. Qualitative and quantitative techniques of inference, analysis, and research writing.
Prerequisite: SOCI 1301, PSYC 2471, and 3 credit hours of advanced sociology course
- 4385 Social Data Analysis** **3:3:0**
 Basic concepts and statistical techniques for applied social research. Introduction to use of SPSS statistical software to data entry and statistical analysis, including correlation, bivariate analysis, and multivariate analysis.
Prerequisite: SOCI 1301, PSYC 2471, and 3 semester hours of advanced sociology course
- 4390 Social Theory** **3:3:0**
 Development of social theory from the perspectives of early thinkers, such as Comte, Spencer, Durkheim, Weber, Marx, to contemporary schools of functionalism, conflict, interactionalism, feminism, exchange, and postmodern theory.
Prerequisite: SOCI 1301, and 6 credit hours of sociology courses or other equivalent social science courses

Social Work Courses (SOWK)

- 2361 Introduction to Social Work** **3:3:0**
 An overview of the knowledge, values, and skills for generalist practice with individuals, families, groups, organizations, and communities. Social work intervention with diverse populations and populations at risk in various fields of practice is emphasized within the context of the history and development of the profession of social work and the social welfare institution. Volunteer component included.
- 2371 Survey of the Social Welfare Institution** **3:3:0**
 History of social work and the social welfare institution with emphasis on the current structure of social welfare. The course examines the social welfare institution's response to those in need, especially the vulnerable members of society. Examination of the major social welfare policies and programs which impact all members of society.
- 3300 Human Behavior in the Social Environment I** **3:3:0**
 This is the first of two courses presenting theories and research on human behavior in the social environment from ecological systems, strengths, empowerment and diversity perspectives. The reciprocal relationship and impact of the family, community and society on human behavior and development throughout the life cycle will be explored, with emphasis on birth through adolescence.
Corequisite: SOWK 3310
- 3310 Social Work Practice I** **3:3:0**
 First in a three course generalist practice sequence. A strengths/empowerment approach utilized for multi-levels of intervention with a focus on the knowledge, values, and skills for culturally sensitive practice with diverse populations and populations at risk. Emphasis on the profession's value orientations as reflected in the NASW Code of Ethics.
Prerequisite: SOWK 2361, 2371.
Corequisite: SOWK 3300
- 3320 Human Behavior in the Social Environment II** **3:3:0**
 Continuation of SOWK 3300. Focus: Young adulthood through later adulthood.
Prerequisite: SOWK 3300.
Corequisite: SOWK 3330
- 3330 Social Work Practice II** **3:3:0**
 Second in a three course generalist practice sequence. This course utilizes systems/ecological systems, empowerment and strengths perspectives to provide the knowledge, values, and skills necessary for practice with individuals, families, and groups in the context of cultural diversity and the need for culturally sensitive practice.
Prerequisite: SOWK 3310
Corequisite: SOWK 3320
- 3340 Social Welfare Policy and Services** **3:3:0**
 Analysis of social welfare policy at local, state, national, and international levels. Emphasis on the analysis of the impact of social welfare policy on society and vulnerable populations. The course stresses the effects of policy upon social services, social work practice and the profession's role of advocacy for policy change.
Prerequisite: SOWK 2361
- 3350 Social Work Practice III** **3:3:0**
 Third practice course in the sequence, this course covers the generalist perspective for social work practice with focus on assessment and intervention with organizations and communities. Emphasis on developing, analyzing, advocating and providing leadership for policies and services. Course includes content on administration and supervision in social service agencies.
Prerequisite: SOWK 3330

3360	Promotion of Social and Economic Justice From a socio-historical perspective, students acquire a knowledge and understanding of how prejudice and discrimination contribute to social and economic inequality, oppression, and social injustice as experienced by diverse cultural groups and populations at risk. Strategies to combat social injustice from a micro-macro focus are emphasized. <i>Corequisites: SOWK 3320, 3330, 4380</i>	3:3:0
4100	Special Topics	
4200	Special Topics	
4300	Special Topics in Social Work Topics in various areas in social work and social service. May be repeated for credit. <i>Prerequisite: Consent of instructor.</i>	1-3:A:0
4320	Seminar Current topics in social work practice. May be repeated for credit when topics vary.	3:3:0
4380	Social Work Research Methods Content on qualitative and quantitative methodologies to build knowledge for social work practice. Preparation to develop, use, and communicate empirically based knowledge, including evidence-based interventions. Focus on evaluation of social work practice to ensure competence based social work practice. <i>Corequisite: SOWK 3330</i>	3:3:0
4321	Field Practicum I Field Practicum provides faculty- and agency-based supervision for social work majors in Program-approved community social service agencies. Students apply conceptual classroom knowledge, values and skills for generalist practice to the practice setting. A three-hour weekly seminar further enhances the integration of theory into practice. <i>Prerequisite: Completion of all prerequisites and consent of field placement coordinator is required to enroll. (See Program Field Manual).</i>	
4324	Field Practicum II Continuation of SOWK 4321. <i>Prerequisite: SOWK 4321 and consent of field placement coordinator.</i>	

Criminal Justice Courses (CRIJ)

1301	Introduction to Criminal Justice History and philosophy of criminal justice and ethical considerations; crime defined; its nature and impact; overview of criminal justice system; law enforcement; court system; prosecution and defense; trial process; corrections.	3:3:0
1306	Court System and Practices The judiciary in the criminal justice system; structure of the American court system; prosecution, right to counsel; pre-trial release; grand juries; adjudication process; types and rules of evidence; sentencing.	3:3:0
1310	Fundamentals of Criminal Law Study of criminal law, its philosophical and historical development and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility.	3:3:0
2301	Community Resources in Corrections An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment.	3:3:0
2313	Correctional Systems and Practices Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues.	3:3:0
2314	Criminal Investigation Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.	3:3:0
2328	Police Systems and Practices The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.	3:3:0
3300	Advanced Criminal Law In-depth examination of principles of substantive criminal law with emphasis on Texas penal statutes and case law.	3:3:0
3304	Interpersonal Effectiveness Skills and attitudes needed by the criminal justice professional to successfully interact with clients and colleagues. Personal planning; time management; communication skills; win-win problem solving techniques.	3:3:0
3309	Class, Race and Gender Role of social class, race and gender in the etiology and control of crime. Injustices within the criminal justice system and broader society. Cultural sensitivity.	3:3:0

3310	Criminal Procedure and Evidence In-depth examination of laws of criminal procedure with emphasis upon Texas procedural laws; rules of evidence; recent state and federal case law in fields of criminal procedure and evidence.	3:3:0
3311	Crime and Criminals American crime problems in historical perspective; social and public policy factors affecting crime, impact and crime trends; liberal and conservative views of the crime problem and policy implications; crime prevention.	3:3:0
3315*	Criminal Behavior An examination of the typologies of criminal behavior. Psychological issues related to criminality and deviance will be presented. Topics include offender motivation, psychopathy, serial murder, sex offenders and career criminals.	3:3:0
3320	Correctional Counseling Overview of basic counseling skills used within correctional programs. Practice with therapeutic communication and crisis intervention will be provided. Issues facing the treatment of mentally ill offenders will be presented.	3:3:0
3330	Counseling Practicum Supervised counseling practice in a criminal justice setting. <i>Pre or co-requisite: CRJF 3320.</i>	3:3:0
3350	Juvenile Justice System A study of the juvenile justice process to include specialized juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.	3:3:0
3380	Correctional Law Legal aspects of correction; rights of the convicted. Laws governing correctional officers and facilities. Legal liabilities in correctional activities.	3:3:0
4101, 4201, 4301	Directed Studies in Criminal Justice Individual study with an instructor in an area of mutual interest. May be repeated for credit when the designated topics are varied. <i>Prerequisite: Consent of instructor.</i>	13:A:0
4300	Legal Research, Brief Writing and Oral Advocacy Preparation of appellate brief on assigned point of law; presentation of appellate oral argument.	3:3:0
4310	Social Justice Theories of justice; relationship of justice to freedom and democracy; injustices in social class, gender, and race relationships.	3:3:0
4311	Ethical Issues in Criminal Justice An examination of selected ethical issues and problems confronting criminal justice professionals.	3:3:0
4313	Contemporary Issues in Criminal Justice Current topics in criminal justice. May be repeated for credit when the topic is varied.	3:3:0
4320	Seminar in Correctional Programs Overview of programs in institutional and noninstitutional agencies; examination of such programs based upon various correctional theories.	3:3:0
4321	Responses to Crime An examination of crime, criminals, and the criminal justice system using critical analysis of recently published materials as a sources for research, discussion, and student seminar. <i>Prerequisite: Senior classification and approval of advisor.</i>	3:3:0
4323	Incarceration A focal study of jails and prisons. Topics include inmate management, jail administration, prison gangs, emergency procedures, correctional design, and special populations. Low, medium, high, and supermax prisons will be examined.	3:3:0
4330	Police Problems Advanced analysis of major contemporary police problems from various perspectives. Examination of current issues in policing.	3:3:0
4340	Criminal Justice Applications Application of principles learned in the classroom to a non-classroom setting. Requirements for this course may be satisfied through a special project or internship. May be repeated for credit. <i>Prerequisite: Consent of instructor.</i>	3:A:0
4350	Criminal Justice Administration Problems and issues in the administration of criminal justice organizations.	3:3:0
4370	Conflict Resolution Elements of conflict, from interpersonal to international. Concepts and skills needed to intervene in conflict situations; mediation techniques. Emphasis on situations confronting criminal justice officials.	3:3:0
4380*	Criminal Justice Research Methods An examination of the research methodologies used in the evaluation of crime and criminal justice systems. The fundamentals of research design, interpretation, and communication of results will be provided.	3:3:0

Anthropology Courses (ANTH)

2302	Archaeology An overview of the science of the human past, introducing the basic methods and theories utilized by modern archaeologists in their reconstruction of human prehistory.	3:3:0
2346	Introduction to Anthropology A general survey of the four fields of anthropology — physical anthropology, cultural anthropology, and archaeology. Emphasis is on the holistic approach of anthropology to the study of mankind in all times and places.	3:3:0
2351	The Nature of Culture An exploration of that uniquely human adaptation known as “culture.” Subject matter will include evidence for cultural behavior in nonhuman primates, as well as language and communication, mythology and narrative, arts and music, play and humor in human societies around the world.	3:3:0
2372	Ethnic Heritage An examination of the cultural heritage of the major ethnic groups of contemporary American society—including Native American, Hispanic American and Middle Eastern. (Only one group will be covered each time the course is taught; contact department for current offering.)	3:3:0
3301*	Physical Anthropology Examines human beings as a biological species, with emphasis on human evolution and variation.	3:3:0
3302*	Forensic Anthropology Examines the role of the forensic anthropologist in today's legal system. The course focuses on the identification of human remains.	3:3:0
4340	Topics in Anthropology Selected special topics in the major research fields of contemporary anthropology. The course will focus on current literature and will involve the student in a research project. This course may be repeated for credit when the topic varies.	3:3:0

Pending approval by the Texas Higher Education Coordinating Board.



College of Business faculty and curricula equip students with skills that support problem-solving, teamwork and an entrepreneurial spirit.