

Department of Life, Earth and Environmental Sciences

Dr. Douglas Bingham, department head
 Agriculture and Natural Sciences Building, Room 348A
 WTAMU Box 60808
 (806)651-2570 • Fax (806)651-2928
 dbingham@mail.wtamu.edu
 www.wtamu.edu/academic/anse/lees

Faculty: Babitzke, Bingham, Bouma, Cepeda, Ghosh, Hyde, Kazmaier, Latman, Matlack, Rodgers, Rogers, Schultz, Sissom, Speer, Wright.

The Department of Life, Earth and Environmental Sciences is composed of faculty with a broad range of academic interests. The department offers majors in biology wildlife biology, biotechnology, environmental science and geology as well as programs in preparation for professional schools (pre-medical, pre-chiropractic, pre-dentistry, pre-pharmacy, pre-occupational therapy and pre-physical therapy). In addition, the department offers majors in medical technology and science education (earth science and life science).

Students pursuing a degree in biology are offered an array of courses that allow them to gain a general background in biology or to specialize in one of several areas (e.g., vertebrate biology, invertebrate biology, human biology, microbiology, etc.). Students opting for the biology major usually plan to attend graduate school (master of science or master of science/Ph.D. programs) to enhance their chances of securing employment in the field. There are teaching opportunities in colleges and universities, as well as positions in state and federal governments, and private laboratories. Some biology majors are laying the foundation for their entrance into professional schools of medicine, dentistry, physical therapy, etc.

The bachelor of science degree in biotechnology is designed for students pursuing careers in the emerging field of biotechnology, as well as clinical research and/or medicine. This program affords students an opportunity to gain hands-on experience in laboratory research, experimental design, data collection and scientific writing. A degree in biotechnology prepares students for jobs in pharmaceutical, clinical, industry and research laboratories. Students completing this degree also will be well prepared for admission to graduate programs in biotechnology.

Environmental science combines basic and applied science, which focuses on the interaction between people and the environment. The environmental scientist has two challenging, sometimes conflicting goals: one, to protect the public from environmental hazards; and two, to preserve critical environmental resources. The demand for environmental scientists is likely to increase in the future as world population grows and the needs for safeguarding people and protecting the environment increase.

The geology program serves the needs of students who intend to pursue the profession of geologist upon graduation or to pursue graduate studies in geology. It also serves the needs of students preparing for a teaching career in earth science. Students may fulfill the science requirement for their particular degree plan by

taking courses in geology or geoscience. In addition, geology and geosciences courses are an essential part of the environmental science program.

The wildlife program offers a degree for those who wish to become professional wildlife biologists. A wildlife biologist is responsible for preserving lands in a condition that wildlife can use for survival and successful reproduction. Wildlife biologists also control hunting seasons and oversee situations where conventional agriculture, forestry and range management cause conditions where some animal species may become pests. They are responsible for reducing negative interactions between wildlife and people.

The bachelor of science degree in medical technology qualifies graduates to assist pathologists or other physicians and scientists to diagnose and treat disease. Medical technologists use their knowledge to carry out laboratory procedures using a host of instruments, including microscopes, centrifuges, computers and electronic counters. They are employed by hospitals, private laboratories, pharmaceutical companies and educational institutions.

The department offers courses in sufficient numbers and variety to provide a student with the basic preparation to pursue a laboratory-oriented research career through graduate school or to continue their interest in science as a field scientist who divides time between research out-of-doors and in the laboratory. Most of our majors continue into careers that match the original goals for which they began their academic preparation. The department has excellent facilities with supporting equipment for field work that includes a fleet of six vehicles as well as ample laboratory facilities for teaching and research.

Discipline	Course Prefix
Anthropology	ANTH
Biology	BIOL
Biotechnology	BIOT
Environmental Science	ENVR
Geology	GEOL
Geoscience	GESC
Natural Science	NSCI

NOTE: See the "Academic Courses and Abbreviations" and "Course Descriptions" sections of this catalog for a complete list of courses offered by the University.

Department of Life, Earth and Environmental Sciences

Undergraduate Majors and Programs

- Biology
- Wildlife Biology
- Biology Education
- Biotechnology
- Earth Science Education
- Environmental Science
- Geology
- Medical Technology (Preclinical)
- Premedical (includes Allopathic Medicine, Osteopathic Medicine, Dentistry, Optometry, Physical Therapy, Podiatry, etc.)
- Pre-Pharmacy

- Additional advanced hours to provide a minimum of 36 hours selected from biology, chemistry, environmental science, geology, mathematics or physics.
- Electives as needed to total number of hours required.

For information about the master of science (M.S.) degree in biology, refer to the “Graduate School” section of this catalog.

Pre-Clinical Allied Health Programs

West Texas A&M University offers preclinical programs in physical therapy, occupational therapy and others that require at least one year of college work. The University does not offer baccalaureate degrees in these programs. The program of study involves the core curriculum plus prerequisite courses required by the specific program. The department provides advisement concerning prerequisite courses for the chosen program and assistance in locating and making application to the required clinical or professional facility.

University Core Curriculum Requirements

Refer to the “University Core Curriculum” section of this catalog.

Bachelor of Arts (B.A.)/Bachelor of Science (B.S.) Degree

May be either depending on option selected; see the “Requirements for Baccalaureate Degrees” section of this catalog.

Major in Biology (Major Code: 102)

A student must complete a minimum of 123 semester credit hours to include at least 36 advanced hours.

- BIOL 1406, 1407 or 1411, 1413 with corresponding laboratories.
- Biology—six courses (2000, 3000 or 4000 level) of which five must include laboratories.
- CHEM 1411 and 1412, including corresponding laboratories.
- GEOL 1403 and 1404 or PHYS 1401 and 1402 with corresponding laboratories.
- MATH 1316 or 1348.

Curriculum Guide (suggested course sequence)			
Major in Biology			
Bachelor of Arts Degree			
First Year		Second Year	
Semester 1 ENGL 13013 hrs. MATH 13143 hrs. BIOL 1406 or 1413 w/lab4 hrs. Humanities core3 hrs. PHED 11111 hr. 14 hrs.	Semester 2 ENGL 13023 hrs. MATH 1316 or 13483 hrs. BIOL 1407 or 1411 w/lab4 hrs. SCOM 1315 or 13213 hrs. CHEM 1411 w/lab4 hrs. 17 hrs.	Semester 1 Humanities core3 hrs. B.A. requirement ..3-4 hrs. Biology elective3-5 hrs. CHEM 1412 w/lab4 hrs. 13-16 hrs.	Semester 2 Biology elective3-5 hrs. B.A. requirement ..3-4 hrs. Visual/ Performing arts core3 hrs. POSC 23053 hrs. POSC 23063 hrs. 15-18 hrs.
Third Year		Fourth Year	
Semester 1 Adv. biology elective3-5 hrs. Adv. biology elective4-5 hrs. GEOL 1403 or PHYS 1401 w/lab4 hrs. B.A. requirement ..3-4 hrs. HIST 13013 hrs. 17-21 hrs.	Semester 2 Adv. biology elective4-5 hrs. B.A. requirement ..3-4 hrs. GEOL 1402 or PHYS 1404 w/lab4 hrs. HIST 13023 hrs. Social/Behavioral core3 hrs. 15 hrs.	Semester 1 Adv. biology elective4-5 hrs. Adv. biology elective4-5 hrs. Adv. biology elective4-5 hrs. 15 hrs.	Semester 2 Elective(s)* ..6-21 hrs. 6-21 hrs.

*Elective hours to be determined based on hours remaining to complete degree.

Curriculum Guide (suggested course sequence)			
Major in Biology			
Bachelor of Science Degree			
First Year		Second Year	
Semester 1 ENGL 13013 hrs. MATH 13143 hrs. BIOL 1406 or 1413 w/lab4 hrs. Humanities core3 hrs. PHED 11111 hr. 14 hrs.	Semester 2 ENGL 13023 hrs. MATH 1316 or 13403 hrs. BIOL 1407 or 1411 w/lab4 hrs. CHEM 1411 w/lab4 hrs. 14 hrs.	Semester 1 CHEM 1412 w/lab4 hrs. Visual/ Performing arts core3 hrs. Biology elective3-5 hrs. POSC 23053 hrs. 13-15 hrs.	Semester 2 Biology elective3-5 hrs. Adv. elective3 hrs. Social/Behavioral core3 hrs. Humanities core3 hrs. POSC 23063 hrs. 15-17 hrs.
Third Year		Fourth Year	
Semester 1 Adv. biology elective3-5 hrs. Adv. biology elective4-5 hrs. GEOL 1403 or PHYS 1401 w/lab4 hrs. Adv. elective3 hrs. HIST 13013 hrs. 17-20 hrs.	Semester 2 Adv. biology elective4-5 hrs. Adv. elective3 hrs. GEOL 1404 or PHYS 1402 w/lab4 hrs. HIST 13023 hrs. SCOM 1315 or 13213 hrs. 17-18 hrs.	Semester 1 Adv. biology elective4-5 hrs. Adv. biology elective4-5 hrs. Adv. elective3 hrs. Adv. elective3 hrs. 17-19 hrs.	Semester 2 Adv. biology elective4-5 hrs. Adv. elective3 hrs. Adv. elective*1-11 hrs. 8-19 hrs.

*Elective hours to be determined based on hours remaining to complete degree.

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Major in Wildlife Biology (Major Code: 141)

- BIOL 1411, 1413, 2374, 3424, 3532, 4510, 4416, 4433, 4434.
- Three courses from BIOL 3301, 3418, 3522, 4335, 4351, ENVR 4302.
- Two courses from BIOL 2572, 3099, 3510, 4425, 4431, 4432, 4513.
- GEOL 1403.
- CHEM 1411, 1412.
- ENGL 2311, 3310.
- MATH 1316 or 1348.
- Electives as needed to make the total number of hours required.

Curriculum Guide (suggested course sequence)			
Major in Wildlife Biology Bachelor of Arts Degree			
First Year		Second Year	
Semester 1 ENGL 13013 hrs. MATH 13143 hrs. BIOL 1413 w/lab4 hrs. BIOL 23743 hrs. PHED 11111 hr. 14 hrs.	Semester 2 ENGL 13023 hrs. MATH 1316 or 13483 hrs. BIOL 1411 w/lab4 hrs. SCOM 1315 or 13213 hrs. HIST 13011 hr. 16 hrs.	Semester 1 Humanities core3 hrs. Visual/performing arts core3 hrs. BIOL 34244 hrs. CHEM 1411 w/lab4 hrs. POSC 23053 hrs. 17 hrs.	Semester 2 Biology*3-5 hrs. CHEM 1412 w/lab4 hrs. HIST 13023 hrs. Humanities core3 hrs. POSC 23063 hrs. 16-18 hrs.
Third Year		Fourth Year	
Semester 1 Biology*3-5 hrs. HIST 13023 hrs. ENGL 23113 hrs. GEOL 1403 w/lab4 hrs. B.A. requirement3 hrs. 16-18 hrs.	Semester 2 Biology*3-5 hrs. ENGL 33103 hrs. BIOL 23743 hrs. BIOL 44164 hrs. B.A. requirement3 hrs. 17 hrs.	Semester 1 Social/ Behavioral3 hrs. Biology**4-5 hrs. Biology**4-5 hrs. BIOL 44334 hrs. 15-17 hrs.	Semester 2 B.A. requirement3 hrs. BIOL 45105 hrs. BIOL 35325 hrs. BIOL 44344 hrs. 17 hrs.
*Choose three courses from BIOL 3301, 3418, 3522, 4335, 4351, ENVR 4302. **Choose two courses from BIOL 2572, 3099, 3510, 4425, 4431, 4432, 4513.			

Curriculum Guide (suggested course sequence)			
Major in Wildlife Biology Bachelor of Science Degree			
First Year		Second Year	
Semester 1 ENGL 13013 hrs. MATH 13143 hrs. BIOL 1413 w/lab4 hrs. BIOL 23743 hrs. PHED 11111 hr. 14 hrs.	Semester 2 ENGL 13023 hrs. MATH 1316 or 13483 hrs. BIOL 1411 w/lab4 hrs. SCOM 1315 or 13213 hrs. 16 hrs.	Semester 1 Humanities core3 hrs. Visual/Performing arts core3 hrs. BIOL 34244 hrs. CHEM 1411 w/lab4 hrs. POSC 23053 hrs. 17 hrs.	Semester 2 Biology*3-5 hrs. CHEM 1412 w/lab4 hrs. POSC 23063 hrs. Humanities core3 hrs. HIST 13023 hrs. 16-18 hrs.
Third Year		Fourth Year	
Semester 1 Biology*3-5 hrs. Elective3 hrs. ENGL 23113 hrs. GEOL 1403 w/lab4 hrs. BIOL 23743 hrs. 16-18 hrs.	Semester 2 Biology*3-5 hrs. ENGL 33103 hrs. BIOL 35325 hrs. BIOL 44164 hrs. 15-17 hrs.	Semester 1 Social/Behavioral core3 hrs. Biology**4-5 hrs. Biology**4-5 hrs. BIOL 44334 hrs. 15-17 hrs.	Semester 2 BIOL 45103 hrs. BIOL 44343 hrs. Elective***8 hrs. 17 hrs.
*Choose three courses from BIOL 3301, 3418, 3522, 4335, 4351, ENVR 4302. **Choose two courses from BIOL 2572, 3099, 3510, 4425, 4431, 4432, 4513. ***Elective hours to be determined based on hours remaining to complete degree.			

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Major in Geology (Major Code: 109)

A student must complete a minimum of 123 semester credit hours to include at least 36 advanced hours.

Bachelor of Arts (B.A.)/Bachelor of Science (B.S.) Requirements

May be either depending on option selected; see the "Requirement for Baccalaureate Degrees" section of this catalog.)

Geology Core Requirements

- GEOL 1403, 1404, 2471, 2475, 3311, 3312, 4305 plus six to eight advanced hours.

Required Courses from Other Departments

- MATH 1316 or 1348, 2413; CHEM 1411, 1412; BIOL 1411, 1413; ENGL 2311; PHYS 1401.

Curriculum Guide (suggested course sequence)			
Major in Geology			
Bachelor of Arts Degree			
First Year		Second Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 13013 hrs. MATH 13143 hrs. GEOL 1403 w/lab4 hrs. BIOL 1411 w/lab4 hrs. 15 hrs.	ENGL 13023 hrs. MATH 1316 or 13483 hrs. GEOL 1404 w/lab4 hrs. CHEM 1411 w/lab4 hrs. PHED 11111 hr. 15 hrs.	ENGL 2332 or 23333 hrs. CHEM 1412 w/lab4 hrs. GEOL 2471 w/lab4 hrs. MATH 24134 hrs. POSC 23053 hrs. 18 hrs.	GEOL 2475 w/lab4 hrs. BIOL 1413 w/lab4 hrs. SCOM 1315 or 13213 hrs. ENGL 2371, HIST 2372 or PHIL 13013 hrs. POSC 23063 hrs. 17 hrs.
Third Year		Fourth Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 33043 hrs. GEOL 33123 hrs. PHYS 1401 w/lab4 hrs. B.A. requirement ..3-4 hrs. HIST 13013 hrs. 16-17 hrs.	GEOL 33113 hrs. GEOL adv. elective3-4 hrs. HIST 13023 hrs. B.A. requirement ..3-4 hrs. Visual/Performing arts core3 hrs. 15-17 hrs.	GEOL 43053 hrs. GEOL adv. elective3-4 hrs. ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOCL 23013 hrs. B.A. requirement ..3-4 hrs. Adv. elective3 hrs. 15-17 hrs.	B.A. requirement ..3-4 hrs. Adv. elective3 hrs. Adv. elective3 hrs. Adv. elective*2-8 hrs. Adv. elective3 hrs. 14-21 hrs.

*Depending on hours left to complete degree (123 hours).

Curriculum Guide (suggested course sequence)			
Major in Geology			
Bachelor of Science Degree			
First Year		Second Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 13013 hrs. MATH 13143 hrs. GEOL 1403 w/lab4 hrs. BIOL 1411 w/lab4 hrs. 14 hrs.	ENGL 13023 hrs. MATH 1316 or 13483 hrs. GEOL 1404 w/lab4 hrs. CHEM 1411 w/lab4 hrs. PHED 11111 hr. 15 hrs.	ENGL 2332 or 23333 hrs. GEOL 2471 w/lab4 hrs. CHEM 1412 w/lab4 hrs. MATH 24134 hrs. POSC 23053 hrs. 18 hrs.	GEOL 2475 w/lab4 hrs. BIOL 1413 w/lab4 hrs. SCOM 1315 or 13213 hrs. ENGL 2371, HIST 2372 or PHIL 13013 hrs. POSC 23063 hrs. 17 hrs.
Third Year		Fourth Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 33043 hrs. GEOL 33123 hrs. PHYS 1401 w/lab4 hrs. Visual/Performing arts core3 hrs. HIST 13013 hrs. 19 hrs.	GEOL 33113 hrs. GEOL adv. elective3-4 hrs. HIST 13023 hrs. Adv. elective3-4 hrs. Elective3 hrs. 15-17 hrs.	Adv. elective3 hrs. GEOL adv. elective3-4 hrs. ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOCL 23013 hrs. Adv. elective3-4 hrs. Adv. elective3 hrs. 15-17 hrs.	GEOL 43053 hrs. Adv. elective3 hrs. Adv. elective3 hrs. Adv. elective3 hrs. Adv. elective*3 hrs. 14-21 hrs.

*Depending on hours left to complete degree (123 hours).

Department of Life, Earth and Environmental Sciences

Bachelor of Science (B.S.) Degree

Major in Biotechnology (Major Code: 101)

A student must complete a minimum of 123 semester credit hours to include at least 36 advanced hours. In addition to a major in biotechnology, students planning careers in forensic science should consider a minor in criminal justice consisting of the following 18 hours: CRIJ 1301, 1306, 3322, 3374, 4340, 4348.

University Core Curriculum Requirements

Select BIOL 1406 and 1407 to satisfy the natural sciences requirement. Select MATH 2413 to satisfy the mathematics requirement. Refer to the "University Core Curriculum" section of this catalog.

Biotechnology Core Requirements

- BIOL 2572, (BIOL 3301 or AGRI 3301), 3092, 3402, 4375, (BIOL 4416 or AGRI 3318).
- BIOT 4385, 4401.
- CHEM 1411, 1412, (2523 or 2525 or 2533), 4323, 4223L, 4324, 4224L.
- PHYS 1401, 1402.
- Two courses from BIOT 4095, 4098*, BIOL 3350, 3440, 3451, 3452, CHEM 3511**, MATH 2414, PSES 3342.

*For further specialization in biotechnology, an internship in industry or research is recommended.

**This course is highly recommended.

Electives (7–18 hours)

Curriculum Guide (suggested course sequence)			
Major in Biotechnology			
First Year		Second Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 13013 hrs. MATH 13143 hrs. BIOL 1406 w/lab4 hrs. HIST 13613 hrs. PHED 11111 hr. 14 hrs.	ENGL 13023 hrs. BIOL 1407 w/lab4 hrs. SCOM 13153 hrs. CHEM 1411 w/lab4 hrs. 17 hrs.	BIOL 2572 w/lab5 hrs. CHEM 1412 w/lab5 hrs. ENGL 2332 or 23333 hrs. POSC 23053 hrs. 17 hrs.	HIST 13063 hrs. POSC 23053 hrs. BIOL 33013 hrs. MATH 24134 hrs. 18 hrs.
Third Year		Fourth Year	
Semester 1	Semester 2	Semester 1	Semester 2
Visual/Performing arts core3 hrs. BIOL 44164 hrs. CHEM 4323 w/lab5 hrs. BIOL 30924 hrs. 16 hrs.	Humanities core3 hrs. BIOL 34024 hrs. CHEM 4324 w/lab5 hrs. Elective*4 hrs. 16 hrs.	BIOT 44014 hrs. BIOL 30921-6 hrs. PHYS 14014 hrs. ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOCL 23013 hrs. 14-17 hrs.	BIOT 43853 hrs. Elective*3-5 hrs. BIOL 43753 hrs. PHYS 14024 hrs. 13-15 hrs.
*Two courses from BIOT 4095, 4098, BIOL 3440, 3350, 3451, 3452, CHEM 3511 (this course is highly recommended), MATH 2414, PSES 3342.			

Department of Life, Earth and Environmental Sciences

Major in Environmental Science (Major Code: 105)

A student must complete a minimum of 123 semester credit hours to include at least 36 advanced hours.

University Core Curriculum Requirements (See above.)

Environmental Science Core Requirements

- BIOL 1411, 1413 or 1406, 1407.
- BIOL 2572, 4416, 4510.
- Two courses from: GESC 3313, ENVR 4306, GESC 3303, ENVR 4430, 4404*
- GEOL 1403, 1404, 3325, 3350.
- CHEM 1411, 1412.
- CHEM 3310 or ENVR 4404.
- CHEM 3511 or 2533.
- ECON 4355 or AGBE 4355.
- ENVR 4098, 4301, 4302.
- MATH 1316 or 1348 and 2413.
- PSES 3411 or BIOL 3418.

*Cannot be used if taken in place of CHEM 3310.

To make the degree in environmental science more specialized, it is recommended that elective and additional courses be taken for a second major in either biology, geology or chemistry. A second major gives the student an area of specialization within the area of environmental science.

To get a second major in biology, a student needs to take (in addition to the courses listed in the suggested curriculum) three of the following courses: BIOL 3099, 3312, 3418, 3420, 3510, 3522 or 4425 and the accompanying labs.

For a second major in geology, see adviser.

For information about a second major in chemistry, refer to the "Department of Mathematics, Physical Sciences and Engineering Technology" section of this catalog.

For information about the master of science (M.S.) degree in environmental science, refer to the "Graduate School" section of this catalog.

Curriculum Guide (suggested course sequence)			
Major in Environmental Science Bachelor of Science degree			
First Year		Second Year	
Semester 1	Semester 2	Semester 1	Semester 2
ENGL 13013 hrs. MATH 1314 or 13243 hrs. BIOL 1413 w/lab4 hrs. GEOL 1403 w/lab4 hrs. 14 hrs.	ENGL 13023 hrs. MATH 1316 or 13483 hrs. BIOL 1411 w/lab4 hrs. CHEM 1411 w/lab4 hrs. PHED 11111 hr. 15 hrs.	ENGL 2322 or 23333 hrs. CHEM 1412 w/lab4 hrs. MATH 24134 hrs. POSC 23053 hrs. 14 hrs.	ENGL 2371, HIST 2372 or PHIL 13013 hrs. GEOL 1404 w/lab4 hrs. POSC 23063 hrs. SCOM 1315 or 13215 hrs. Visual/Performing arts core3 hrs. 16 hrs.
Third Year		Fourth Year	
Semester 1	Semester 2	Semester 1	Semester 2
BIOL 25725 hrs. GEOG 3313 or GESC 3313 ..3 hrs. GEOL 33253 hrs. CHEM 33103 hrs. HIST 13013 hrs. 17 hrs.	ENVR 43013 hrs. GEOG 33503 hrs. GESC 33033 hrs. CHEM 35115 hrs. HIST 13023 hrs. 17 hrs.	BIOL 45105 hrs. ECON or AGBE 43553 hrs. ENVR 43023 hrs. PSES 34114 hrs. ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOC 23013 hrs. 18 hrs.	BIOL 44164 hrs. ENVR 4098 ...1-3 hrs. ENVR 43023 hrs. Elective6 hrs. 14-16 hrs.
*Depending on hours left to complete degree (123 hours).			

Department of Life, Earth and Environmental Sciences

Bachelor of Science in Medical Technology (B.S.M.T.) Degree

Major in Medical Technology (Major Code: 116)

A student must complete a minimum of 123 semester credit hours to include at least 36 advanced hours.

University Core Curriculum Requirements

Refer to the “University Core Curriculum” section of this catalog.

NOTE: During the third year, students in this program should apply for admission to a medical technology school. Since requirements vary among schools of medical technology, students must consult their advisers.

Biology Core Requirements

BIOL 1406, 1407 (or 1411, 1413), 2572, 4375.

Required Courses from Other Departments

- 16 hours of chemistry to include general chemistry (CHEM 1411 and 1412), one semester of organic chemistry with lab (CHEM 2523 or 2533), plus electives. It is recommended to take the second semester of organic chemistry, one semester of biochemistry or one semester of analytical chemistry to fulfill the chemistry elective requirement.
- Electives—24 hours (see adviser for recommended courses).

Curriculum Guide (suggested course sequence)			
Major in Medical Technology			
First Year		Second Year	
Semester 1 ENGL 13013 hrs. MATH 13143 hrs. BIOL 1406 w/lab4 hrs. HIST 13013 hrs. PHED 11111 hr. 14 hrs.	Semester 2 ENGL 13023 hrs. BIOL 1407 w/lab4 hrs. PHED 11111 hr. CHEM 1411 w/lab4 hrs. 12 hrs.	Semester 1 ENGL 2332 or 23333 hrs. Visual/Performing arts core3 hrs. SCOM 1315 or 13214 hrs. CHEM 1412 w/lab4 hrs. POSC 23053 hrs. 17 hrs.	Semester 2 CHEM 2533 w/lab4 hrs. Elective3 hrs. BIOL 2572 w/lab5 hrs. ENGL 2371, HIST 2372 or PHIL 13013 hrs. POSC 23063 hrs. 17-19 hrs.
Third Year		Fourth Year	
Semester 1 ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOCI 23013 hrs. HIST 13013 hrs. CHEM 43233 hrs. CHEM 4323L2 hrs. Adv. elective3 hrs. 14 hrs.	Semester 2 HIST 13023 hrs. Elective3 hrs. Elective3 hrs. Adv. elective6 hrs. 15 hrs.	Summer Session I BIOL 43753 hrs. 3 hrs.	Semester 1 Medical technical school31-33 hrs. 31-33 hrs.

*Choose one—CHEM 2525 w/lab, CHEM 4323 w/lab, CHEM 3511 w/lab.

Program in Premedical (Major Code: 145) or Pre-Dental (Major Code: 146)

NOTES: This is a basic three- to four-year program of 94 minimum hours for admission to professional schools. Student should consult advisers for proper course selection.

Professional school admissions officers make final decisions regarding entrance requirements to their respective schools.

Biology Core Requirements

BIOL 1406, 1407 with corresponding laboratories.

Required Courses from Other Departments

- CHEM 1411, 1412, 2523, 2525.
- ENGL 1301, 1302.
- HIST 1301, 1302.
- MATH 1316, also recommend 2413.
- PHYS 1401, 1402, including corresponding laboratories.

Program in Pre-Physical Therapy or Pre-Occupational Therapy (Major Code: 144)

University Core Curriculum Requirements

Refer to the “University Core Curriculum” section of this catalog.

NOTE: Preprofessional requirements vary for particular physical therapy and occupational therapy programs in Texas. Degree planning by advisement is strongly recommended.

Biology Core Requirements

BIOL 1406 or 1413, and 1407, 2401, 2402.

Required Courses from Other Departments

- ENGL 1301, 1302.
- HIST 1301, 1302.
- POSC 2305, 2306.
- PSYC 2301.

Program in Pre-Pharmacy (Major Code: 139)

Preprofessional requirements vary widely between pharmacy schools. Students considering this major should consult with the pre-pharmacy adviser for information regarding various schools and their particular requirements.

Teacher Certification Programs

The Department of Life, Earth and Environmental Sciences offers secondary teacher certification in life science and science. Consult the “Division of Education” section of this catalog for certification requirements related to programs offered by this department.