Department of Life, Earth and Environmental Sciences

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Faculty: Babitzke, Bingham, Bouma, Cepeda, Ghosh, Kazmaier, Latman, Lee, Matlack, 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 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

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 120 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 pr PHYS 1401 and 1402 with corresponding laboratories.
- MATH 1316 or 1348.

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

Curriculum Guide (suggested course sequence)

Major in Biology
Bachelor of Arts Degree

First Year		Second Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	POSC 2305.....3 hrs.	Biology
MATH 1314 .....3 hrs.	MATH 1316	B.A.	elective .....3-5 hrs.
BIOL 1406 or	or 2412.....3 hrs.	requirement ..3–4 hrs.	B.A.
1413 w/lab .....4 hrs.	BIOL 1407 or	Biology	requirement ..3-4 hrs.
Humanities	1411 w/lab .....4 hrs.	elective .....3–5 hrs.	Visual/
core .....3 hrs.	SCOM 1315	CHEM 1412	Performing
PHED 1111 ....1 hr.	or 1321.....3 hrs.	w/lab .....4 hrs.	arts core.....3 hrs.
14 hrs.	CHEM 1411	13-16 hrs.	POSC
	w/lab .....4 hrs.		2306 .....3 hrs.
	17 hrs.		12-15 hrs.
Third Year		**Fourth Year**	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
Adv. biology	Adv. biology	Adv. biology	Elective(s)* ..7-17 hrs.
elective .....3-5 hrs.	elective .....4-5 hrs.	elective .....4-5 hrs.	7-17 hrs.
Adv. biology	B.A.	Adv. biology	
elective .....4-5 hrs.	requirement ..3-4 hrs.	elective .....4-5 hrs.	
GEOL 1403	GEOL 1402	Adv. biology	
or PHYS 1401	or PHYS 1404	elective .....4-5 hrs.	
w/lab .....4 hrs.	w/lab .....4 hrs.	15 hrs.	
B.A.	HIST 1302 .....3 hrs.		
requirement ...3-4 hrs.	Social/Behavioral		
HIST 1301 ..3 hrs.	core .....3 hrs.		
17-21 hrs.	15 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	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	CHEM 1412	Biology
MATH 1314 .....3 hrs.	MATH 1316	w/lab .....4 hrs.	elective .....3-5 hrs.
BIOL 1406 or	or 1340.....3 hrs.	Visual/	Adv. elective .....3 hrs.
1413 w/lab .....4 hrs.	BIOL 1407	Performing	Social/Behavioral
Humanities	or 1411	arts core.....3 hrs.	core .....3 hrs.
core .....3 hrs.	w/lab .....4 hrs.	Biology	HIST 1301 .....3 hrs.
PHED 1111 ....1 hr.	CHEM 1411	elective .....3-5 hrs.	POSC
14 hrs.	w/lab .....4 hrs.	POSC	2306 .....3 hrs.
	14 hrs.	2305 .....3 hrs.	15-17 hrs.
		13-15 hrs.	
Third Year		**Fourth Year**	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
Adv. biology	Adv. biology	Adv. biology	Adv. biology
elective .....3-5 hrs.	elective .....4-5 hrs.	elective .....4-5 hrs.	elective .....3-5 hrs.
Adv. biology	Adv. elective ....3 hrs.	Adv. biology	Adv. elective .....3 hrs.
elective .....4-5 hrs.	GEOL 1404 or	elective .....4-5 hrs.	Adv.
GEOL 1403	PHYS 1402	Adv. elective .....3 hrs.	elective* .....0-8 hrs.
or PHYS 1401	w/lab .....4 hrs.	Adv. elective .....3 hrs.	6-16 hrs.
w/lab .....4 hrs.	HIST 1302 .....3 hrs.	Adv.	
Adv.	SCOM 1315	elective .....3 hrs.	
elective .....3 hrs.	or 1321 ....3 hrs.	17-19 hrs.	
14-17 hrs.	17-18 hrs.		

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

Department of Life, Earth and Environmental Sciences

Major in Wildlife Biology (Major Code: 141)

A student must complete a minimum of 120 semester credit hours to include at least 36 advanced hours.

- BIOL 1411, 1413, 2374, 3374, 3424, 3532, 4510, 4433, 4434.
- Three courses from BIOL 3301, 3418, 4098, 4335, 4351, 4416, 4480, ENVR 4302.
- Three courses from BIOL 2572, 3099, 3510, 4425, 4431, 4432, 4430, 4460, 4513.
- GEOL 1403.
- CHEM 1411, 1412.
- MATH 1316 or 2412.
- 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	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	Humanities	Biology* .....3-5 hrs.
MATH 1314 .....3 hrs.	MATH 1316	core .....3 hrs.	CHEM 1412
BIOL 1413	or 1348 .....3 hrs.	Visual/performing	w/lab .....4 hrs.
w/lab .....4 hrs.	BIOL 1411	arts core .....3 hrs.	HIST 1302 .....3 hrs.
BIOL 2374 .....3 hrs.	w/lab .....4 hrs.	BIOL 3424 .....4 hrs.	B.A.
PHED 1111 ....1 hr.	SCOM 1315	CHEM 1411	requirement .....3 hrs.
14 hrs.	or 1321 .....3 hrs.	w/lab .....4 hrs.	POSC
	HIST 1301 .....3 hrs.	POSC 2305 ....3 hrs.	2306 .....3 hrs.
	16 hrs.	17 hrs.	16-18 hrs.

Third Year		Fourth Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
Biology* .....3-5 hrs.	Biology* .....3-5 hrs.	Social/	BIOL 4510 .....5 hrs.
HIST 1302 .....3 hrs.	BIOL 2374 .....3 hrs.	Behavioral .....3 hrs.	BIOL 3532 .....5 hrs.
ENGL 2311 .....3 hrs.	BIOL 3374 .....3 hrs.	Biology** .....4-5 hrs.	BIOL 4434 .....4 hrs.
GEOL 1403	B.A.	Biology** .....4-5 hrs.	14 hrs.
w/lab .....4 hrs.	requirement ..3 hrs.	BIOL 4433 ..4 hrs.	
B.A.	12-14 hrs.	15-17 hrs.	
requirement ..3 hrs.			
16-18 hrs.			

*Choose three courses from BIOL 3301, 3418, 3522, 4098, 4335, 4351, 4416, 4480, ENVR 4302.
**Choose three courses from BIOL 2572, 3099, 3510, 4425, 4430, 4431, 4432, 4460, 4513.

Curriculum Guide (suggested course sequence)

Major in Wildlife Biology
Bachelor of Science Degree

First Year		Second Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	Humanities	Biology* .....3-5 hrs.
MATH 1314 .....3 hrs.	MATH 1316	core .....3 hrs.	CHEM 1412
BIOL 1413	or 1348 .....3 hrs.	Visual/Performing	w/lab .....4 hrs.
w/lab .....4 hrs.	BIOL 1411	arts core .....3 hrs.	POSC 2306 .....3 hrs.
BIOL 2374 .....3 hrs.	w/lab .....4 hrs.	BIOL 3424 .....4 hrs.	HIST 1302 ..3 hrs.
PHED 1111 ....1 hr.	SCOM 1315	CHEM 1411	13-15 hrs.
14 hrs.	or 1321 .....3 hrs.	w/lab .....4 hrs.	
	16 hrs.	POSC 2305 ....3 hrs.	
		17 hrs.	

Third Year		Fourth Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
Biology* .....3-5 hrs.	Biology* .....4-5 hrs.	Social/Behavioral	BIOL 4510 .....3 hrs.
Elective .....3 hrs.	BIOL 3532 .....5 hrs.	core .....3 hrs.	BIOL 4434 .....3 hrs.
GEOL 1403	BIOL	Biology** .....4-5 hrs.	Elective*** ..1-7 hrs.
w/lab .....4 hrs.	3374 .....3 hrs.	Biology** .....4-5 hrs.	10-16 hrs.
BIOL	12-14 hrs.	BIOL	
2374 .....3 hrs.		4433 .....4 hrs.	
13-15 hrs.		15-17 hrs.	

*Choose three courses from BIOL 3301, 3418, 3522, 4098, 4335, 4351, 4416, 4480, ENVR 4302.
**Choose three courses from BIOL 2572, 3099, 3510, 4425, 4430, 4431, 4432,4460, 4513.
***Elective hours to be determined based on hours remaining to complete degree.

Department of Life, Earth and Environmental Sciences

Major in Geology (Major Code: 109)

A student must complete a minimum of 120 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 2412, 2413; CHEM 1411, 1412; BIOL 1411, 1413; ENGL 2311; PHYS 1401.
- Additional advanced hours to provide a minimum of 36 hours selected from biology, chemistry, environmental science, geology, mathematics, computer science or physics.

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 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	ENGL 2332	GEOL 2475
MATH 1314 .....3 hrs.	MATH 1316	or 2333 .....3 hrs.	w/lab .....4 hrs.
GEOL 1403	or 1348.....3 hrs.	CHEM 1412	BIOL 1413
w/lab .....4 hrs.	GEOL 1404	w/lab .....4 hrs.	w/lab .....4 hrs
BIOL 1411	w/lab .....4 hrs.	GEOL 2471	SCOM 1315
w/lab ..... 4 hrs.	CHEM 1411	w/lab .....4 hrs.	or 1321 .....3 hrs
14 hrs.	w/lab .....4 hrs.	MATH 2413 .....4 hrs.	ENGL 2371,
	PHED 1111 ... 1 hr.	POSC 2305.... 3 hrs.	HIST 2372
	15 hrs.	18 hrs.	or PHIL 1301 ....3 hrs.
			POSC 2306.... 3 hrs.
			17 hrs

Third Year		Fourth Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 3304 .....3 hrs.	GEOL 3311 .....3 hrs.	GEOL 4305 .....3 hrs.	B.A.
GEOL 3312 .....3 hrs.	GEOL adv.	GEOL adv.	requirement ..3-4 hrs.
PHYS 1401	elective .....3-4 hrs.	elective .....3-4 hrs.	Adv. elective .....3 hrs.
w/lab .....4 hrs.	HIST 1302 .....3 hrs.	ANTH 2351,	Adv. elective .....3 hrs.
B.A.	B.A.	ECON 2301,	Adv.
requirement ..3-4 hrs.	requirement ..3-4 hrs.	GEOG 1302,	elective ..... 3 hrs.
HIST 1301 .. 3 hrs.	Visual/Performing	PSYC 2301 or	12-13 hrs.
16-17 hrs.	arts core .. 3 hrs.	SOCI 2301 .....3 hrs.	
	15-17 hrs.	B.A.	
		requirement .. 3-4 hrs.	
		12-14 hrs.	

*Depending on hours left to complete degree (120 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 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	ENGL 2332	GEOL 2475
MATH 1314 .....3 hrs.	MATH 1316	or 2333 .....3 hrs.	w/lab .....4 hrs.
GEOL 1403	or 2312.....3 hrs.	GEOL 2471	BIOL 1413
w/lab .....4 hrs.	GEOL 1404	w/lab .....4 hrs.	w/lab .....4 hrs.
BIOL 1411	w/lab .....4 hrs.	CHEM 1412	SCOM 1315
w/lab ..... 4 hrs.	CHEM 1411	w/lab .....4 hrs.	or 1321 .....3 hrs
14 hrs.	w/lab .....4 hrs.	MATH 2413 .....4 hrs.	ENGL 2371,
	PHED 1111 ... 1 hr.	POSC 2305.... 3 hrs.	HIST 2372 or
	15 hrs.	18 hrs.	PHIL 1301 .....3 hrs.
			POSC 2306.... 3 hrs.

Third Year		Fourth Year	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
GEOL 3312 .....3 hrs.	GEOL 3311 .....3 hrs.	Adv. elective .....3 hrs.	GEOL 4305 .....3 hrs.
PHYS 1401	GEOL adv.	GEOL adv.	Elective .....3 hrs.
w/lab .....4 hrs.	elective. .....4 hrs.	elective .....4 hrs.	Adv. elective .....3 hrs.
Visual/Performing	HIST 1302 .....3 hrs.	ANTH 2351,	Adv.
arts core.....3 hrs.	Adv.	ECON 2301,	elective* ..... 3 hrs.
HIST 1301 ..... 3 hrs.	elective ..... 4 hrs.	GEOG 1302,	12 hrs.
16 hrs.	14 hrs.	PSYC 2301 or	
		SOCI 2301 .....3 hrs.	
		Adv. elective ... 4 hrs.	
		14 hrs.	

*Depending on hours left to complete degree (120 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 120 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, 3402, 4375, BIOL 4416 or AGRI 3318, 4404.
- BIOT 4385, 4401, 4402.
- CHEM 1411, 1412, 2523 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 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	BIOL 2572	HIST 1306 .....3 hrs.
MATH 2413 .....3 hrs.	BIOL 1407	w/lab .....5 hrs.	POSC 2305 .....3 hrs.
BIOL 1406	w/lab .....4 hrs.	CHEM 1412	BIOL 3301 .....3 hrs.
w/lab .....4 hrs.	MATH 2312 .....3 hrs.	w/lab .....5 hrs.	ARTS core .....3 hrs.
HIST 1361 .....3 hrs.	CHEM 1411	POSC 2305 .....3 hrs.	SCOM 1315 ....3 hrs.
PHED 1111 ....1 hr.	w/lab .....4 hrs.	ANTH 2351,	15 hrs
14 hrs.	14 hrs.	ECON 2301,	
		GEOG 1302,	
		PSYC 2301 or	
		SOCI 2301 .....3 hrs.	
		16 hrs.	
Third Year		**Fourth Year**	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
BIOT 4385 .....3 hrs.	Humanities	BIOT 4401 .....4 hrs.	Elective* .....4 hrs.
BIOL 4416 .....4 hrs.	core .....3 hrs.	BIOL 4404 .....4 hrs.	BIOL 4375 .....3 hrs.
CHEM 4323	BIOL 3402 .....4 hrs.	PHYS 1401 .....4 hrs.	PHYS 1402 ....4 hrs.
w/lab .....5 hrs.	CHEM 4324	Elective .....3 hrs.	11 hrs.
BIOT 4402 .....4 hrs.	w/lab .....5 hrs.	15 hrs.	
16 hrs.	Elective* .....4 hrs.		
	16 hrs.		

*Two courses from BIOT 4095, 4098, BIOL 3440, 3350, 3451, 3452, CHEM 3511 (this course is highly recommended), MATH 2414, PSES 3342.

Major in Environmental Science (Major Code: 105)

A student must complete a minimum of 120 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, Chemistry and Physics" 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 1301 .....3 hrs.	ENGL 1302 .....3 hrs.	ENGL 2322	Social/
MATH 1314	MATH 1316	or 2333 .....3 hrs.	Behav.Sci. .....3 hrs.
or 1324 .....3 hrs.	or 2412.....3 hrs.	CHEM 1412	GEOL 1404
BIOL 1413	BIOL 1411	w/lab .....4 hrs.	w/lab .....4 hrs.
w/lab .....4 hrs.	w/lab .....4 hrs.	MATH 2413 .....4 hrs.	POSC 2306.... 3 hrs.
GEOL 1403	CHEM 1411	POSC	SCOM 1315
w/lab .....4 hrs.	w/lab .....4 hrs.	2305 .....3 hrs.	or 1321 .....5 hrs.
14 hrs.	PHED 1111 ...1 hr.	14 hrs.	Visual/Performing
	15 hrs.		arts core .....3 hrs.
			16 hrs
Third Year		**Fourth Year**	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
BIOL 2572 .....5 hrs.	ENVR 4301 .....3 hrs.	BIOL 4510 .....5 hrs.	BIOL 4416 .....4 hrs.
GEOG 3313	GEOL 3350 .....3 hrs.	ECON or	ENVR 4098 .....3 hrs.
or GESC 3313 ..3 hrs.	GESC 3303 .....3 hrs.	AGBE 4355 .....3 hrs.	ENVR 4302 .....3 hrs.
GEOL 3325 .....3 hrs.	CHEM 3511 .....5 hrs.	ENVR 4302 .....3 hrs.	Elective .....1 hr.
CHEM 3310 .....3 hrs.	HIST 1302 .....3 hrs.	PSES 3411 ....4 hrs.	11 hrs.
HIST 1301 .....3 hrs.	17 hrs.	15 hrs.	
17 hrs.			

*Depending on hours left to complete degree (120 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 120 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	**Semester 2**	**Semester 1**	**Semester 2**
ENGL 1301 .....3 hrs. MATH 1314 .....3 hrs. BIOL 1406 w/lab .....4 hrs. HIST 1301 .....3 hrs. PHED 1111 ..... 1 hr. 14 hrs.	ENGL 1302 .....3 hrs. BIOL 1407 w/lab .....4 hrs. PHED 1111 .... 1 hr. SCOM 1315 or 1321 .....3 hrs. CHEM 1411 w/lab ..... 4 hrs. 15 hrs.	ENGL 2332 or 2333 .....3 hrs. Visual/Performing arts core .....3 hrs. CHEM 1412 w/lab .....4 hrs. POSC 2305 .... 3 hrs. 14 hrs.	CHEM 2533 w/lab .....5 hrs. Elective .....3 hrs. BIOL 2572 w/lab .....5 hrs. POSC 2306 ..... 3 hrs. 16 hrs.
Third Year		**Fourth Year**	
Semester 1	**Semester 2**	**Summer Session I**	**Semester 1**
ANTH 2351, ECON 2301, GEOG 1302, PSYC 2301 or SOCI 2301 .....3 hrs. HIST 1301 .....3 hrs. CHEM 4323 .....3 hrs. CHEM 4323L ...2 hrs. Adv. elective ... 3 hrs. 14 hrs.	HIST 1302 .....3 hrs. Elective .....3 hrs. Elective .....3 hrs. Adv. elective ... 6 hrs. 15 hrs.	BIOL 4375 .....3 hrs. 3 hrs.	Medical technical school .....31-33 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.
- POSC 2305, 2306.

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 "Department of Education" section of this catalog for certification requirements related to programs offered by this department.