

BIOLOGY

Associate of Science

The Associate of Science Degree with a field of study in Biology offers students the opportunity to take a core curriculum of general education courses with an emphasis in Biology.

Many exciting career opportunities are available in the biological sciences. Students should bear in mind that many of the career areas listed require training beyond the Associate of Science degree and some will require a post graduate degree.

- Agriculture
- Biotechnology
- Dentistry
- Dietary Research
- Environmental Science
- Forensic Science
- Genetic Engineering
- Health Sciences
- Marine Science
- Medicine
- Medical Research
- Microbiological Research
- Molecular Biology
- Pharmacology
- Physical Therapy
- Science Education
- Toxicology
- Veterinary Science
- Wildlife Biology

Program Learning Outcomes

1. The student will apply the scientific method to perform experiments and interpret data.
2. The student will demonstrate knowledge of the structure, metabolism, genetics, physiology and molecular processes of cells.
3. The student will describe the theory of evolution through natural selection and discuss how it impacts the study of biology.
4. The student will apply proper scientific terminology and taxonomy and explain how classification schemes relate to phylogenies.
5. The student will describe microbial mechanisms of pathogenicity.
6. The student will describe the anatomy and physiology of tissues, organs, and organ systems.
7. The student will describe the fundamental principles of maintaining homeostasis in organisms.
8. The student will be able to describe the interactions among organisms as related to their ecosystem.
9. The students will be able to explain the principles of genetic inheritance, apply them to predict outcomes of genetic crosses, and identify inheritance patterns in genetic data.

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Field of Study - 18 credit hours ¹

BIOL 1406	Biology for Science Majors I	4
BIOL 1407	Biology for Science Majors II	4
BIOL 2401	Anatomy and Physiology I	4
BIOL 2421	Microbiology for Science Majors	4

CHEM 2423	Organic Chemistry I	4
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STC Core Curriculum - 42 credit hours

Complete 42 credit hours of required Core Curriculum including the following:	42
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Life and Physical Sciences

CHEM 1411	General Chemistry I
CHEM 1412	General Chemistry II

Mathematics

MATH 1414	College Algebra
MATH 2412	Pre-Calculus Math
MATH 2413	Calculus I (Recommended)

Social and Behavioral Sciences

PSYC 2301	General Psychology
SOCI 1301	Introductory Sociology

Language, Philosophy and Culture

PHIL 1301	Introduction to Philosophy
PHIL 2306	Introduction to Ethics

Total Credit Hours	60
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¹ For BIOL 2421 and CHEM 2423, 3 hours are scheduled for field of study and 1 hour is scheduled to meet the general core education requirements (Component Area Option).

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Recommended Course Sequence

Course	Title	Credit Hours
First Year		
Fall		
ENGL 1301	Composition I	3
	Creative Arts Elective - Core Curriculum	3
	Mathematics Elective - Core Curriculum	4
Select one of the following:		
MATH 1414	College Algebra	
MATH 2412	Pre-Calculus Math	
MATH 2413	Calculus I (Recommended)	
BIOL 1406	Biology for Science Majors I	4
Credit Hours		14
Spring		
ENGL 1302	Composition II - Rhetoric	3
CHEM 1411	General Chemistry I	4
BIOL 1407	Biology for Science Majors II	4
HIST 1301	United States History I	3
or HIST 2327	or Mexican-American History I	
or HIST 2381	or African American History I	
Credit Hours		14
Summer		
HIST 1302	United States History II	3
or HIST 2328	or Mexican-American History II	
or HIST 2382	or African American History II	
Credit Hours		3
Second Year		
Fall		
GOVT 2305	Federal Government	3
CHEM 1412	General Chemistry II	4
BIOL 2401	Anatomy and Physiology I	4
	Social and Behavioral Sciences Elective - Core Curriculum	3
Required:		

PSYC 2301 or SOC 1301	General Psychology or Introductory Sociology	
Credit Hours		14
Spring		
GOVT 2306	Texas Government	3
CHEM 2423	Organic Chemistry I	4
BIOL 2421	Microbiology for Science Majors	4
Component Area Option - Core Curriculum		1-4
Credit Hours		12-15
Summer		
Language, Philosophy & Culture Elective - Core Curriculum		3
Required:		
PHIL 1301 or PHIL 2306	Introduction to Philosophy or Introduction to Ethics	
Credit Hours		3
Total Credit Hours		60-63