

BIOLOGY - BS

The BS degree in Biology is designed for students to obtain a comprehensive, solid foundation in the major branches of Biology. The degree provides the opportunity for extensive study across the breadth of biological disciplines, ranging from molecular and cellular biology to ecology and evolution. This degree plan is recommended for students preparing for graduate programs in biological sciences or any professional programs in health and medical sciences such as medical, dental or veterinary schools.

Program Requirements

First Year

Fall		Semester Credit Hours
BIOL 111	Introductory Biology I ^{1,2}	4
CHEM 119	Fundamentals of Chemistry I ²	4
Select one of the following: ^{2,3}		4
MATH 147	Calculus I for Biological Sciences	
MATH 151	Engineering Mathematics I	
MATH 171	Calculus I	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Semester Credit Hours		15

Spring

BIOL 112	Introductory Biology II ^{1,2}	4
CHEM 120	Fundamentals of Chemistry II ²	4
Select one of the following: ²		3-4
MATH 148	Calculus II for Biological Sciences	
MATH 152	Engineering Mathematics II	
MATH 172	Calculus II	
STAT 201	Elementary Statistical Inference	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Semester Credit Hours		14

Second Year

Fall		Semester Credit Hours
BIOL 213	Molecular Cell Biology ²	3
CHEM 227 & CHEM 237	Organic Chemistry I and Organic Chemistry Laboratory ²	4
PHYS 201	College Physics	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ^{4,5}		3
Semester Credit Hours		14
Spring		Semester Credit Hours
BIOL 214	Genes, Ecology and Evolution ²	3
CHEM 228 & CHEM 238	Organic Chemistry II and Organic Chemistry Laboratory ²	4
PHYS 202	College Physics	4

American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ^{4,5}	3
Semester Credit Hours	14
Total Semester Credit Hours	57

- ¹ Grade of C or better required.
- ² Must be completed by start of 5th full semester.
- ³ Students may not use MATH 142 to satisfy this requirement.
- ⁴ Students seeking teacher certification must take HIST 105 and HIST 106. Other students may choose HIST 105 and HIST 106 or any 6 hours of American history courses (3 hours may be in Texas history).
- ⁵ Students successfully completing the required four semesters of upper-level ROTC courses may substitute these courses for 3 hours of American history and 3 hours of government/political science.

The following are CBK courses and must be completed prior to the start of 5th full semester: BIOL 111, BIOL 112, BIOL 213, BIOL 214, CHEM 119, CHEM 120, CHEM 227 & CHEM 237, CHEM 228 & CHEM 238, MATH 147, MATH 148 or STAT 201.

Third Year

Fall		Semester Credit Hours
BICH 410 or BICH 440	Comprehensive Biochemistry I or Biochemistry I	3
GENE 302 & GENE 314	Principles of Genetics and Principles of Genetics Laboratory	4
STAT 312	Statistics for Biology	3
Select one of the following:		1
BICH 412	Biochemistry Laboratory I	
BICH 414	Biochemical Techniques I	
BICH 432/ GENE 432	Laboratory in Molecular Genetics	
General elective ⁶		4
Semester Credit Hours		15

Spring

BICH 411 or BICH 441	Comprehensive Biochemistry II or Biochemistry II	3
Select from the following: ⁷		4
BICH 464/ GENE 464	Bacteriophage Genomics	
BIOL 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/biol/)		
GENE 400-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/gene/)		
OCNG 320	Biological Oceanography	
VIBS 343 or VIBS 443	Histology or Biology of Mammalian Cells and Tissues	
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3
General electives ⁶		6
Semester Credit Hours		16

Fourth Year**Fall**

POLS 206	American National Government ⁵	3
Select from the following: ⁷		7
BICH 464/ GENE 464	Bacteriophage Genomics	
BIOL 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/biol/)		
GENE 400-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/gene/)		
OCNG 320	Biological Oceanography	
VIBS 343 or VIBS 443	Histology or Biology of Mammalian Cells and Tissues	
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
General elective ⁶		3
Semester Credit Hours		16

Spring

POLS 207	State and Local Government ⁵	3
Select from the following: ⁷		7
BICH 464/ GENE 464	Bacteriophage Genomics	
BIOL 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/biol/)		
GENE 400-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/gene/)		
OCNG 320	Biological Oceanography	
VIBS 343 or VIBS 443	Histology or Biology of Mammalian Cells and Tissues	
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
General elective ⁶		3
Semester Credit Hours		16
Total Semester Credit Hours		63

⁶ Select from any 100-499 course not used elsewhere. (Except AGLS 101; ASCC 101, ASCC 102, ASCC 289; BIMS 101; BIOL 101, BIOL 107 BIOL 113, BIOL 206; CHEM 106, CHEM 116; MATH 102, MATH 142.) Only one KINE 199 may be used as a general elective.

⁷ Two courses in the major must be designated as writing intensive.

Total Program Hours 120