BIOLOGICAL SCIENCES | BACHELOR OF SCIENCE: BIOLOGY (GENERAL BIOLOGY)

Program Summary

Code	Title	Hours
General Education		34
Major Core		30-31
Cognates		14-17
Directed Electives		18-24
Open Electives		4-24
Total Hours		**120**

[1] Open electives are the credit hours required to reach a minimum of 120 total hours and 45 upper-level hours. The number listed assumes all courses are completed at FHSU as listed. This number may vary if students transfer courses, or have individual substitutions allowed. Students should speak with their advisor if either situation applies to determine if the number will vary, and to ensure they enroll in a minimum of 45 upper-level hours.
Students entering within 1 year of high school graduation will take UNIV 101 Freshman Seminar and may apply that hour in the open elective category.

Program Requirements

General Education

All undergraduate degrees require completion of the Kansas Systemwide General Education (https://catalog.fhsu.edu/general-education/).

Courses identified with [GE] on this page may satisfy a general education requirement in addition to the identified degree requirement. Students who apply a degree requirement to satisfy a general education requirement will typically add an equal number of hours to the the university elective category. This flexibility may allow you to complete a minor or certificate within the 120 hour degree. Transfer students and students majoring in programs with approved exceptions (https://www.fhsu.edu/general-education/documents/fhsu-gen-ed-transfer-exceptions-explainer1.pdf) are especially encouraged to select these courses in completing General Education requirements to maximize the likelihood of completing the degree with 120 credit hours.

Code	Title	Hours
General Education		**34-35**

Code	Title	Hours
1. Biology Core		
BIOL 180 & 180L	Principles of Biology and Principles of Biology Laboratory [GE, 1, 2, 3]	4
BIOL 325 & 325L	Genetics and Genetics Laboratory [2, 3]	4
Select two courses from the following:		8
BIOL 250 & 250L	Botany and Botany Laboratory [GE, 2, 3]	
BIOL 260 & 260L	Zoology and Zoology Laboratory [GE, 2, 3]	
BIOL 490 & 490L	General Microbiology and General Microbiology Laboratory [GE, 2, 3]	
2. Structure and Function Requirement		
Select two of the following, at least one of which must be a physiology course:		8
BIOL 230 & 230L	Anatomy and Physiology I and Anatomy and Physiology I Laboratory [10]	
BIOL 231 & 231L	Anatomy and Physiology II and Anatomy and Physiology II Laboratory [10]	
BIOL 330 & 330L	Plant Anatomy and Plant Anatomy Laboratory [2]	
BIOL 345 & 345L	Human Anatomy and Human Anatomy Laboratory [2, 3]	
BIOL 346 & 346L	Human Physiology and Human Physiology Laboratory [2, 3]	
BIOL 450 & 450L	Comparative Anatomy and Comparative Anatomy Laboratory [4]	
BIOL 495 & 495L	Plant Physiology and Plant Physiology Laboratory [3]	
3. Additional Process Class		
Select one course from the following:		3-4
BIOL 395 & 395L	Ecology and Ecology Laboratory [3]	
BIOL 435	Cellular Biology [3]	
BIOL 420	Evolution [2]	
4. Upper-Division Requirements		
Select 18-24 credit hours of the following: [5]		18-24
BIOL 401	Virology [6]	
BIOL 470 & BIOL 471	Problems in Biology and Problems in Biology (Research) [2, 3]	
BIOL 476	Internship in Biology [2, 3]	
BIOL 482	Readings in Biology [2, 3]	
BIOL 627	Behavioral Ecology [7]	
BIOL 642 & 642L	Parasitology and Parasitology Laboratory [6]	
BIOL 644 & 644L	Embryology and Embryology Laboratory [8]	
BIOL 648	Immunology [2]	
BIOL 675	Microbiology of the Pathogens [7]	
5. Discipline Writing Course Graduation Requirement		
BIOL 442	Scientific Communication [2]	3
6. Cognates - Chemistry [9]		
General Chemistry Requirement		
Select one of the following options:		8-10
Option A:		
CHEM 120 & 120L	University Chemistry I and University Chemistry Laboratory I [GE, 2]	
CHEM 122 & 122L	University Chemistry II and University Chemistry Laboratory II [GE, 3]	
Option B:		

CHEM 112 & 112L	General Chemistry I and General Chemistry Laboratory I	
CHEM 114 & 114L	General Chemistry II and General Chemistry Laboratory II	
7. Cognates - Mathematics		
Select one course in Statistics:		3-4
MATH 250	Elements of Statistics [GE, 2, 3]	
BIOL 620 & 620L	Biostatistics and Biostatistics Lab [2]	
Select one course in Quantitative Analysis:		3
MATH 331	Calculus Methods [GE, 1, 2, 3]	
MATH 122	Plane Trigonometry [GE, 2, 3]	

1 Counts towards General Education and the Biology major.
2 Fall offering.
3 Spring offering.
4 Fall (odd) offering.
5 Take any of courses with "BIOL" prefix and 300 level or above from either the list below or courses listed above that were not used to meet the requirements for that section. Courses other than those listed may be available. Talk to your faculty mentor and academic advisor. The number of credit hours completed in this section, depends on the number of credit hours completed in sections 3, 6, and 7.
6 Spring (odd) offering.
7 Spring (even) offering.
8 Fall (even) offering.
9 In consultation with advisor/mentor, depending on professional school requirements. Ask your advisor about a Chemistry minor.
10 BIOL 230 Anatomy and Physiology I/BIOL 230L Anatomy and Physiology I Laboratory and BIOL 231 Anatomy and Physiology II/BIOL 231L Anatomy and Physiology II Laboratory must be taken in combination.

Degree Requirements

Code	Title	Hours
All bachelor degrees require:		
GPA of 2.0 on FHSU courses & 2.0 on all coursework (Higher program requirements prevail over the 2.0 when set)		
A minimum of 30 hours earned from FHSU with a grade of D, C, B, or A		
Successful completion of an upper division Writing and Information Literacy course (Most majors contain a course designated)		
A minimum of 45 hours of recognized upper division credit		
A minimum of 120 hours of recognized college credit		