Biology, B.S.

Visit the Biology Department page (https://www.uvu.edu/college-of-science/biology/) for more information on the program and access to advising.

Program Description

Students interested in Biology, or related fields, are encouraged to earn at least a baccalaureate degree (BS). Many professions (e.g., Pharmacy or Medicine) require additional post -baccalaureate education. The BS degree in Biology may be used for entry into a career or in preparation for graduate (Masters/PhD) or professional schools (medical, dental, pharmacy, etc.).

Matriculation Requirements

BIOL 1610 College Biology I or BIOL 1610H College Biology I with C- or higher and approval of Biology Department advisor.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**120**
General Education Requirements:		**33 Credits**
ENGL 1010	Introduction to Academic Writing	3
or ENGH 1005	Literacies and Composition Across Contexts	
ENGL 2010	Intermediate Academic Writing	3
MATH 1050	College Algebra	4
or MATH 1055	College Algebra with Preliminaries	
Complete one of the following:		3
HIST 2700 & HIST 2710	US History to 1877 and US History since 1877 (6)	
HIST 1700	American History (3)	
HIST 1740	US Economic History (3)	
POLS 1000	American Heritage (3)	
POLS 1100	American National Government (3)	
Complete the following:		
Distribution Courses:		
BIOL 1610	College Biology I	4
or BIOL 1610H	College Biology I	
CHEM 1210	Principles of Chemistry I	4
Personal, Professional, and Civic Growth GE class		3
Humanities Distribution		3
Fine Arts Distribution		3
Social/Behavioral Science		3
Discipline Core Requirements		**58 Credits**
BIOL 1615	College Biology I Laboratory	1
CHEM 1220	Principles of Chemistry II	4
BIOL 1620	College Biology II	3
BIOL 1625	College Biology II Laboratory	1
BIOL 3400	Cell Biology	3
BIOL 3500	Genetics	3
BIOL 3550	Molecular Biology	3
BIOL 3600	Biological Chemistry	3
BIOL 3700	General Ecology	3
BIOL 4500	Principles of Evolution	3
BIOL 4920R	Professional Development	1

BIOL 4970R	Biology Colloquium (0.5 cr, two required))	1
BIOL 4940	Student Seminar	2
Complete one of the following upper division lab courses: One course from this category needs to be taken although only 1 credit hour is required		1
BIOL 3100	Introduction to Data Analysis for Biologists (3)	
BIOL 3200	Guided Research Experience (1-3)	
BIOL 3405	Cell Biology Laboratory (1)	
BIOL 3515	Advanced Genetics Laboratory (1)	
BIOL 3555	Experiments in Molecular Biology (1)	
BIOL 4300	Phylogenetics (4)	
BIOL 4550	Molecular Evolution and Bioinformatics (3)	
MICR 3150	Microbial Ecology (4)	
MICR 3455	General Microbiology Laboratory (1)	
MICR 4505	Applied Virological Methods (3)	
BOT 3500	Mycology (4)	
BOT 3800	Ethnobotany (4)	
BOT 4100	Plant Anatomy (4)	
BOT 4200	Plant Systematics (3)	
BOT 4430	Plant Pathology (3)	
BOT 4600 & BOT 4605	Plant Physiology and Plant Physiology Laboratory (4)	
BOT 4700	Plant Tissue Culture (4)	
Complete one of the following:		4
STAT 2040	Principles of Statistics (4)	
MATH 1060 & MATH 1210	Trigonometry and Calculus I (7)	
PHYS 2010	College Physics I	4
PHYS 2015	College Physics I Lab	1
PHYS 2020	College Physics II	4
PHYS 2025	College Physics II Lab	1
CHEM 1215	Principles of Chemistry I Laboratory	1
CHEM 1225	Principles of Chemistry II Laboratory	1
CHEM 2310	Organic Chemistry I	4
CHEM 2315	Organic Chemistry I Laboratory	1
CHEM 2320	Organic Chemistry II	4
CHEM 2325	Organic Chemistry II Laboratory	1
Elective Requirements		**29 Credits**
Choose 3 credits from any MICR electives. [1]		3
Choose 3 credits from any BOT electives. [1]		3
Choose 3 credits from any ZOOL electives. [1]		3
Additional credits to meet credit and upper-division requirements.		20

[1] Upper division is suggested to meet upper division requirements

Graduation Requirements

1. Completion of a minimum of 120 semester credits.
2. If an AA or AS degree has been earned, a maximum of 64 of these credits may apply toward the BS.
3. At least 30 credit hours in residence at UVU or satellite sites are required, with 10 hours earned during the last 45 hours.
4. A minimum of 40 credits must be upper-division (numbered 3000 or above).
5. A minimum of 40 credits must be in the major (BIOL, BOT, BTEC, MICR, or ZOOL prefixes), 30 of which must be upper-division. A minimum of nine Department credits must be taken at UVU.
6. Except for 4900R Special Topics courses, a maximum cumulative total of 9 credits in any combination of upper division Departmental courses with an "R" designation may count toward graduation.

7. Complete Biology Department core courses with a grade of "C-" or higher in each course.
8. Achieve a minimum overall GPA of 2.0 with a minimum GPA of 2.25 in biology department courses.
9. Complete the appropriate application for graduation form.
10. Successful completion of at least one Global/Intercultural course.
11. Successful completion of two writing enriched (WE) courses.
12. Complete Departmental Assessment conducted by the Dept. of Biology Assessment Coordinator.
13. Complete an exit survey administered by the Biology Department.

Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (http://www.uvu.edu/wolverinetrack/).

First Year		
Semester 1		**Credit Hours**
ENGL 1010 or ENGH 1005	Introduction to Academic Writing or Literacies and Composition Across Contexts	3
American Institutions		3
Fine Arts Distribution		3
Humanities Distribution		3
MATH 1050 or MATH 1055	College Algebra or College Algebra with Preliminaries	4
	Credit Hours	**16**
Semester 2		
BIOL 1610 or BIOL 1610H	College Biology I or College Biology I	4
BIOL 1615	College Biology I Laboratory	1
ENGL 2010	Intermediate Academic Writing	3
CHEM 1210	Principles of Chemistry I	4
CHEM 1215	Principles of Chemistry I Laboratory	1
Personal, Professional, and Civic Growth GE class		3
	Credit Hours	**16**
Second Year		
Semester 3		
BIOL 1620	College Biology II	3
BIOL 1625	College Biology II Laboratory	1
CHEM 1220	Principles of Chemistry II	4
CHEM 1225	Principles of Chemistry II Laboratory	1
Complete one of the following:		4
STAT 2040	Principles of Statistics	
MATH 1060	Trigonometry	
MATH 1210	Calculus I	
	Credit Hours	**13**
Semester 4		
BIOL 3500	Genetics	3
CHEM 2310	Organic Chemistry I	4
CHEM 2315	Organic Chemistry I Laboratory	1
Social/Behavioral Science Distribution		3
Elective		5
	Credit Hours	**16**
Third Year		
Semester 5		
BIOL 3700	General Ecology	3
BIOL 3400	Cell Biology	3
CHEM 2320	Organic Chemistry II	4
CHEM 2325	Organic Chemistry II Laboratory	1
Elective		4
BIOL 4970R	Biology Colloquium	0.5
	Credit Hours	**15.5**

Semester 6		
BIOL 3600	Biological Chemistry	3
PHYS 2010	College Physics I	4
PHYS 2015	College Physics I Lab	1
BIOL 3550	Molecular Biology	3
Zoology Elective		3
BIOL 4970R	Biology Colloquium	0.5
	Credit Hours	**14.5**
Fourth Year		
Semester 7		
BIOL 4500	Principles of Evolution	3
Botany Elective		3
PHYS 2020	College Physics II	4
PHYS 2025	College Physics II Lab	1
Elective		3
	Credit Hours	**14**
Semester 8		
BIOL 4920R	Professional Development	1
Micr Elective		4
BIOL 4940	Student Seminar	2
Elective		8
	Credit Hours	**15**
	Total Credit Hours	**120**

Program Learning Outcomes

1. Apply the process of science through the use of hypothesis testing in the design and completion of scientific experiments
2. Critically evaluate scientific information
3. Quantitatively analyze scientific data through graph interpretation, statistical analysis, and problem solving
4. Effectively communicate scientific information in both written and oral formats.
5. Explain fundamental biological concepts including cell biology, genetics, evolution, ecological principles, organismal biology, and biodiversity
6. Apply scientific concepts both across and outside of biology that demonstrate interdisciplinary understanding

Natural sciences managers

- Total Positions100,100
- Field Growth7.5%
- Median Salary$157,740
- Average Openings8.3

Biological scientists, all other

- Total Positions66,800
- Field Growth5.6%
- Median Salary$91,100
- Average Openings5.4

Life scientists, all other

- Total Positions8,000
- Field Growth6.5%
- Median Salary$86,950
- Average Openings0.4

Agricultural technicians

- Total Positions19,600
- Field Growth5.9%
- Median Salary$43,180
- Average Openings3.0

Food science technicians

- Total Positions25,100
- Field Growth7.3%
- Median Salary$49,090
- Average Openings3.9

Forensic science technicians

- Total Positions18,600
- Field Growth13.6%
- Median Salary$64,940
- Average Openings2.7

Biological science teachers, postsecondary

- Total Positions64,900
- Field Growth8.4%
- Median Salary$83,920
- Average Openings5.6

Secondary school teachers, except special and career/technical education

- Total Positions1,071,400
- Field Growth-0.6%
- Median Salary$65,220
- Average Openings64.0