

BIOLOGY MAJOR - BS

Requirements for a Major in Biology

Bachelor of Science

Code	Title	Hours
Required Courses		
BIOL 121	Foundations of Experimental Biology	4
BIOL 123	Principles in Molecular Biology	3
BIOL 200	Genetics	4
BIOL 205	Evolution	3
Select one semester of chemistry ¹		4
Select six additional courses above the 180-level. At least one course must be taken from each of the following three groups: ^{2,3}		
<i>Cell and Molecular</i>		
BIOL 201	Cell Biology	
BIOL 311	Microbiology	
BIOL 320	Reproductive & Stem Cell Biology	
BIOL 351	Biological Microscopy	
BIOL 353	Molecular Genetics	
BIOL 354	Human Genetics	
BIOL 442	Immunology	
BIOL 463	Cellular & Molecular Neurobiology	
CHEM 407	Biochemistry I	
CHEM 408	Biochemistry II	
<i>Organismal</i>		
BIOL 202	Plant Taxonomy	
BIOL 204	Plant Physiology	
BIOL 230	Ichthyology	
BIOL 248	Entomology	
BIOL 251	Human Anatomy and Physiology I	
BIOL 252	Human Anatomy and Physiology II	
BIOL 260	Vertebrate Field Biology	
<i>Ecology</i>		
BIOL 235	Marine Biology	
BIOL 249	Medical & Veterinary Entomology	
BIOL 310	Freshwater Ecology	
BIOL 325	Ecology	
BIOL 327	Tropical Biodiversity	
BIOL 330	Human Ecology and Evolution	
BIOL 335	Conservation Genetics	
BIOL 340	Ecological Simulation	
BIOL 360	Microbial Symbiosis	
<i>Electives</i>		
BIOL 315	Infectious Disease & Public Health	
BIOL 350	Biostatistics ⁵	
BIOL 450	Internship in Biology	
or BIOL 457	Internship in Biology (Paid) \$200 fee	
BIOL 491	Independent Study	
BIOL 492	Independent Study	
BIOL 493	Research in Biology	
BIOL 494	Research in Biology	

BIOL 496	Senior Project	
BIOL 498	Senior Project	
MATH 345	Mathematical Biology	
Must complete four additional courses from the following: ⁴		12-16
MATH 113	Introduction to Statistics	
MATH 131	Calculus I	
MATH 132	Calculus II	
CHEM 261	Organic Chemistry	
CHEM 262	Organic Chemistry	
PHYS 151	Introductory Physics	
PHYS 152	Introductory Physics	
CSCI 111	Introduction to Computer Science	
CSCI 112	Data Structures	
NSCI 330	Behavioral Neuroscience Techniques	
NSCI 331	Behavioral and Statistical Modeling	
BIOL 350	Biostatistics	
BIOL 494	Research in Biology	
BIOL 498	Senior Project	
Capstone		
BIOL 499	Biology Capstone ⁶	3
Total Hours		51-61

1

At or above the CHEM 215 level

2

At least three of the six courses must be four hour courses. BIOL 494 or BIOL 498 may substitute for one of these 4 hour courses.

3

Electives can also be used to meet this requirement.

4

Note that these four additional courses must be distinct from the six courses about the 180-level listed above.

5

We encourage all students to consider BIOL 350 as one of the three additional electives.

6

Must successfully complete BIOL 499 in the senior year.

All courses counted towards the major must be completed with a minimum grade of C-, and BIOL 121 and BIOL 123 must be passed with at least a C- as a prerequisite for many biology courses numbered 200 and above. Students double-majoring in biology, particularly those with their second major in cognate disciplines, such as math, physics, chemistry, and psychology, must still complete the biology capstone.

Requirements for a Teaching Endorsement in Biology

The program requirements of a student planning to minor in education for the purpose of certification in Biology vary slightly from those of other Biology majors. All students must complete the requirements for a major in Biology as listed above. While completing the major, education students must include the following courses, as well as ENGL 185 and the Education minor (<https://rmc.courseleaf.com/programs/education/>)

education-minor-secondary/). Not all courses required for certification will apply to the Biology major.

Code	Title	Hours
BIOL 121	Foundations of Experimental Biology	4
BIOL 123	Principles in Molecular Biology	3
BIOL 200	Genetics	4
BIOL 201	Cell Biology	4
BIOL 205	Evolution	3
BIOL 499	Biology Capstone	3
CHEM 215	Principles of Chemistry \$50 course fee	4
Select one of the following botany courses:		4
BIOL 202	Plant Taxonomy	
BIOL 204	Plant Physiology	
Select one of the following organismal courses:		4
BIOL 230	Ichthyology	
BIOL 248	Entomology	
BIOL 260	Vertebrate Field Biology	
Select one of the following anatomy/physiology courses:		4
BIOL 251	Human Anatomy and Physiology I	
BIOL 252	Human Anatomy and Physiology II	
Select one of the following ecology courses:		4
BIOL 235	Marine Biology	
BIOL 325	Ecology	
Select one of the following physics courses:		4
PHYS 105	A Hitchiker's Guide to Physics (With Apologies to Douglas Adams)	
PHYS 151	Introductory Physics	
Select one of the following earth science courses:		4
ASTR 101	Introductory Astronomy	
CHEM 130	Environmental Chemistry	
GEOL 101	Introduction to Geology and the Environment	
GEOL 102	A Geologic History of Earth	
Select one of the following statistics courses:		3-4
MATH 111	Introduction to Statistics	
MATH 113	Introduction to Statistics	
BIOL 350	Biostatistics	
Total Hours		52-53