

# Minor in Biology

26 units

## Requirements

- The minimum prerequisites for the biology minor are a *C-* in BIOL 151 and a *B-* in MATH 110 or equivalent (for example, an ALEKS score of 65). Students may not earn a biology minor if they are majoring in allied health or biochemistry.
- Students must complete all prerequisites for a BIOC, BIOL, or CHEM course with a *C-* or better before taking the course (except as noted in the course description).
- Students must maintain a minimum cumulative GPA of 2.0 in all biology, chemistry, biochemistry, math, and physics courses required for the minor.
- Students must complete each course required for the minor with a *C-* or higher for the course to meet a degree requirement in the Department of Biology and Chemistry.
- Any single course within the minor can be taken only two times at APU; students will be dismissed from the minor after two unsuccessful (below *C-*) attempts in a single required course.
- Only two courses total within the minor can be repeated; students will be dismissed from the minor after unsuccessful (below *C-*) attempts in any three required courses.

Code	Title	Units
<b>Lower-Division Requirements</b>		<b>20</b>
BIOL 151	General Biology I <sup>1</sup>	
BIOL 152	General Biology II	
CHEM 151	General Chemistry I <sup>1, 2</sup>	
BIOL 240	Biology of Microorganisms	
BIOL 280	Cell Biology	
BIOL 396	Topics in Biology and Christian Thought <sup>3</sup>	
<b>Upper-Division Electives</b>		<b>6</b>
Choose 6 units of electives from the following; these may not include units used to fulfill requirements of the student's major.		
BIOL 300	Genetics <sup>4</sup>	
BIOL 311	Teaching and Learning in STEM <sup>5</sup>	
BIOL 312	STEM Education Research Seminar <sup>5</sup>	
BIOL 313	STEM Teaching Practicum <sup>5</sup>	
BIOL 320	Ecology <sup>6</sup>	
BIOL 326	Neurobiology <sup>4</sup>	
BIOL 336	Vertebrate Biology	
BIOL 342	Medical Microbiology	
BIOL 350	Mammalian Physiology	
BIOL 365	Plant Biology	
BIOL 394	Directed Research Internship <sup>5</sup>	
BIOL 395	Biological Science Internship <sup>5</sup>	
BIOL 410	Molecular Biology	
BIOL 435	Stewardship Ecology	
BIOL 440	Developmental Biology	
BIOL 495	Advanced Topics in Biology	
BIOL 497	Readings	
<b>Total Units</b>		<b>26</b>

<sup>1</sup> Meets the General Education Natural Sciences requirement.

<sup>2</sup> This course may be waived with an appropriate Advanced Placement test score.

<sup>3</sup> BIOL 152 (<http://catalog.apu.edu/search/?P=BIOL%20152>) meets this requirement if taken at APU.

<sup>4</sup> Meets the General Education Integrative and Applied Learning requirement.

<sup>5</sup> Up to 3 units combined of either BIOL 311, BIOL 312, BIOL 313, BIOL 394, or BIOL 395 may count toward minor elective units.

<sup>6</sup> Meets the General Education Civic Knowledge and Engagement requirement.

## **Program Learning Outcomes**

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Students who successfully complete this program shall be able to:

1. Demonstrate a broad knowledge base in the field of biology.
2. Effectively communicate scientific ideas and research orally.
3. Effectively communicate scientific ideas and research in writing.
4. Demonstrate proficiency in problem solving and applying the scientific method to scientific questions.
5. Demonstrate laboratory skills and techniques.
6. Demonstrate knowledge of relevant laboratory instrumentation.
7. Express a Christian worldview that integrates faith with their biology vocation.