BIOLOGY, B.S.

Program Learning Outcomes

Students who complete the B.S. program in Biology will be able to:

1. Demonstrate an understanding of the process of science and of the concepts and theories of biology across a broad range of organizational levels: molecular, cellular, organismal, and ecological (population, community, ecosystem).
2. Participate in the life of the Biology Department by involvement in one or more of the following areas: research, biology clubs, and/or various positions of responsibility serving as graders, tutors, and/or teaching assistants.
3. Develop a rationally defensible integration of science and faith.
4. Be prepared for post-graduate studies or science-related careers.

Code	Title	Units
Lower-Division Requirements		
BIO 2010 and BIO 2010L	Cell Biology and Biochemistry (GE) and Cell Biology and Biochemistry Lab (GE) [1]	4
BIO 2011 and BIO 2011L	Ecological and Evolutionary Systems (GE) and Ecological and Evolutionary Systems Lab (GE) [1]	4
BIO 2012 and BIO 2012L	Organismal Biology and Organismal Biology Lab	4
CHE 1052 and CHE 1052L	General Chemistry I (GE) and General Chemistry I Lab (GE) [1]	5
CHE 1053 and CHE 1053L	General Chemistry II and General Chemistry II Lab	4
CHE 2094 and CHE 2094L	Organic Chemistry I and Organic Chemistry I Lab	4
MTH 1044	Calculus with Applications (GE) [1]	4
Choose one (1) sequence from the following:		8
Sequence 1:		
PHY 1044 and PHY 1044L	General Physics I (GE) and General Physics I Lab (GE) [1]	
PHY 1054 and PHY 1054L	General Physics II (GE) and General Physics II Lab (GE)	
Sequence 2:		
PHY 2044 and PHY 2044L	University Physics I (GE) and University Physics I Lab (GE)	
PHY 2054 and PHY 2054L	University Physics II and University Physics II Lab	
Upper-Division Requirements		
BIO 3045 and BIO 3045L	Genetics and Genetics Lab	4
BIO 3052	Research Methodology	3
BIO 3063 and BIO 3063L	Conservation Ecology and Conservation Ecology Lab	4
BIO 3080 and BIO 3080L	Molecular Biology and Molecular Biology Lab	4
BIO 4097	Biology Seminar	1
MTH 3063	Calculus Based Statistics with R	3
Elective Courses		
Choose a minimum of eleven (11) units from the following: [2]		11
BIO 3015 and BIO 3015L	Microbiology and Microbiology Lab	
BIO 3023 and BIO 3023L	Introduction to Oceanography and Introduction to Oceanography Lab	
BIO 3033 and BIO 3033L	Marine Biology and Marine Biology Lab	
BIO 3040 and BIO 3040L	Field Biology: Neotropical Ecology and Field Biology: Neotropical Ecology Lab	
BIO 3050 and BIO 3050L	Advanced Cell Biology and Advanced Cell Biology Lab	
BIO 3060	Ethnobotany	
BIO 3070	Sustainable Agriculture	
BIO 3090 and BIO 3090L	Immunology and Immunology Lab	
BIO 4000 and BIO 4000L	Developmental Biology and Developmental Biology Lab	
BIO 4010 and BIO 4010L	Vertebrate Biology and Vertebrate Biology Lab	
BIO 4023 and BIO 4023L	Advanced Human Physiology and Advanced Human Physiology Lab	
BIO 4030 and BIO 4030L	Animal Behavior and Animal Behavior Lab	
BIO 4050 and BIO 4050L	Advanced Biochemistry and Advanced Biochemistry Lab	
BIO 4063	Learning and Teaching in Science	
BIO 4070	Neuroscience	
BIO 4073 and BIO 4073L	Experimental Marine Ecology and Experimental Marine Ecology Lab	
BIO 4083	Introduction to Geographic Information Systems (GIS)	
BIO 4090 or BIO 4099	Internship in Biology Research in Biology	
Approved Off-Campus		
Total Units		**67**

[1] 12 units meet General Education requirements.

[2] Courses and their corresponding lab (if applicable) must be taken concurrently.