

# BIOLOGY-CHEMISTRY, B.S. (BIOLOGY)

Code	Title	Units
<b>Lower-Division Requirements</b>		
BIO 2010 and BIO 2010L	Cell Biology and Biochemistry (GE) and Cell Biology and Biochemistry Lab (GE)	4
BIO 2011 and BIO 2011L	Ecological and Evolutionary Systems (GE) and Ecological and Evolutionary Systems Lab (GE)	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)	5
CHE 1053 and CHE 1053L	General Chemistry II and General Chemistry II Lab	4
CHE 2013	Analytical Chemistry	3
CHE 2094 and CHE 2094L	Organic Chemistry I and Organic Chemistry I Lab	4
CHE 2096 and CHE 2096L	Organic Chemistry II and Organic Chemistry II Lab	4
MTH 1044	Calculus with Applications (GE)	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)	
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	
<b>Upper-Division Requirements</b>		
BIO 3045 and BIO 3045L	Genetics and Genetics Lab	4
BIO 3080 and BIO 3080L	Molecular Biology and Molecular Biology Lab	4
BIO 4097	Biology Seminar	1
CHE 3025 and CHE 3025L	Chemical Thermodynamics and Kinetics and Chemical Thermodynamics and Kinetics Lab	4
Choose one (1) course from the following:		4
BIO 4050 and BIO 4050L	Advanced Biochemistry and Advanced Biochemistry Lab	
CHE 4050 and CHE 4050L	Advanced Biochemistry and Advanced Biochemistry Lab	
Choose one (1) course from the following:		2-3
CHE 3026	Quantum Chemistry	
CHE 3051	Organic Structure Elucidation	
CHE 3070	Instrumental Analysis	

CHE 4053	Advanced Organic Chemistry
CHE 4066	Bioinorganic Chemistry
CHE 4068	Advanced Inorganic Chemistry
Choose at least five (5) units from the following: <sup>1</sup>	
BIO 3012	Applied Plant Biology
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	Field Biology: Neotropical Ecology
BIO 3050 and BIO 3050L	Advanced Cell Biology and Advanced Cell Biology Lab
BIO 3052	Research Methodology
BIO 3063 and BIO 3063L	Conservation Ecology and Conservation Ecology Lab
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 4070	Neuroscience
BIO 4073 and BIO 4073L	Experimental Marine Ecology and Experimental Marine Ecology Lab

**Total Units** **68-69**

<sup>1</sup> Courses and their corresponding lab (if applicable) must be taken concurrently.