

BIOLOGY (INTEGRATIVE BIOLOGY), B.S.

This program is designed for students who desire a strong, diverse background in the biological sciences. It is designed to introduce students to the wholeness of biology through an integrative perspective of the structure and function of biological systems with strong training in information analysis. It is appropriate for students who wish to attend graduate or professional schools.

Requirements for a Major in Biology (Integrative Biology)

Code	Title	Hours
Thirty-five semester hours including the following: ¹		
Required Courses		
BIO 1305 & BIO 1105	Modern Concepts of Bioscience and Modern Concepts of Bioscience Laboratory	4
or BIO 1405	Investigations of Modern Biology Concepts I	
BIO 1306 & BIO 1106	Modern Concepts of Bioscience, continued and Modern Concepts of Bioscience Laboratory	4
or BIO 1406	Investigations of Modern Biology Concepts II	
BIO 2306 & BIO 2106	Genetics and Genetics Laboratory	4
BIO 3303	Ecology	3
BIO 3366	Foundations of Evolutionary Biology	3
BIO 4001	Achievement Test	0
Select one semester hour from the following: 1		
BIO 3100	Seminar in Biology	
BIO 3103	Ecology Laboratory	
BIO 3300	Advanced Topics in Biology	
BIO 3V9R	Research	
BIO 4199	Scientific Communication	
Select three semester hours from each group: 12		
<i>Group 1</i>		
BIO 3324 & BIO 3124	Entomology and Laboratory for Entomology	
BIO 3429	Comparative Chordate Anatomy	
BIO 4301	Immunology	
BIO 4302 & BIO 4102	General Microbiology and General Microbiology Lab	
BIO 4304 & BIO 4104	Medical Entomology and Medical Entomology Laboratory	
BIO 4308 & BIO 4108	Genes and Development and Genes and Development Laboratory	
BIO 4323	Parasitology	
BIO 4416	Plant Anatomy	
BIO 4422	Ichthyology	
<i>Group 2</i>		
BIO 3322 & BIO 3122	Human Physiology and Human Physiology Lab	
BIO 3342	Molecular Cell Biology	

BIO 4307	Biochemistry and Physiology of the Cell	
BIO 4317 & BIO 4117	Plant Physiology and Plant Physiology Lab	
BIO 4431	Comparative Vertebrate Physiology	
BIO 4418	Biology of Wetland and Aquatic Vascular Plants	
<i>Group 3</i>		
BIO 3320	Climate Change Biology	
BIO 4305	Aquatic Ecosystems	
BIO 4365	Topics in Evolution	
BIO 4381	Restoration Ecology	
BIO 4405	Limnology	
BIO 4406	Aquatic Biology	
<i>Group 4</i>		
BIO 3350	Genomics and Bioinformatics	
BIO 4306 & BIO 4106	Molecular Genetics and Genomics and Molecular Genetics and Genomics Laboratory	
BIO 4333	Science Leadership: Improvement of Science Education	
Four semester hours of 3000-4000 level BIO courses		4
Subtotal		35
Required Courses in Other Fields ²		
CHE 1301 & CHE 1101	Basic Principles of Modern Chemistry I and General Chemistry Laboratory I	4
CHE 1302 & CHE 1102	Basic Principles of Modern Chemistry II and General Chemistry Laboratory II	4
CHE 3331	Organic Chemistry I	3
CHE 3332	Organic Chemistry II	3
CHE 3238	Organic Chemistry Laboratory	2
MTH 1321	Calculus I	3
MTH 1322	Calculus II	3
or STA 2381	Introductory Statistical Methods	
Select one of the following sequences:		8
PHY 1408 & PHY 1409	General Physics for Natural and Behavioral Sciences I and General Physics for Natural and Behavioral Sciences II	
PHY 1420 & PHY 1430	General Physics I and General Physics II	
PHY 1420 & PHY 1409	General Physics I and General Physics for Natural and Behavioral Sciences II	
Total Hours		65

¹ A grade of "C" or better in all biology courses used in the major and a GPA of 2.0 or higher on all BIO courses completed.

² A grade of "C" or better in all courses required in other fields.