

BIOLOGY (CELL AND MOLECULAR BIOLOGY), B.S.

This program is designed for students who desire a strong understanding of cellular function at the molecular level. It is designed to provide a solid foundation in cellular function and genetic control of biological processes to support the exploration of disease etiology. It is appropriate for students who wish to attend graduate or professional schools.

Requirements for a Major in Biology (Cell and Molecular 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 3342	Molecular Cell Biology	3
BIO 4001	Achievement Test	0

Cell and Molecular Distribution List 6

BIO 3330	Medical Genetics	
BIO 3350	Genomics and Bioinformatics	
BIO 4301	Immunology	
BIO 4302 & BIO 4102	General Microbiology and General Microbiology Lab	
BIO 4306 & BIO 4106	Molecular Genetics and Genomics and Molecular Genetics and Genomics Laboratory	
BIO 4308 & BIO 4108	Genes and Development and Genes and Development Laboratory	
BIO 4426	Vertebrate Histology	

Science Communication Distribution List 1

BIO 3100	Seminar in Biology	
BIO 3110	Biology Education Theory	
BIO 3V9R	Research	
BIO 4199	Scientific Communication	

Thirteen semester hours of 3000-4000 level BIO courses ³ 13

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 or STA 2381	Calculus II Introductory Statistical Methods	3

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.

³ A maximum of 6 hours total of any combination of BIO 3V90/3V9R/4V90/4V9R may be used for elective credit.

⁴ A maximum of 2 credit hours of BIO 3111 may be used towards major.