

BIOLOGY (BS) - BIOMEDICAL SCIENCE TRACK

The Biomedical Science concentration within the BS Biology program is designed specifically for students with an interest in healthcare or the biomedical sciences. The program was designed to be unique in its versatility, as it can be modified to accommodate many careers in the biomedical field or serve as the standalone program for those who desire entry into medical, dental or even veterinary school. Students completing this degree would have all the prerequisites needed to pursue most any career or post-graduate degree they seek in the biomedical field.

Code	Title	Credit Hours
Core IMPACTS Area : Institutional Priorities		7
Take the following courses		
RIVR 1101	Taking the Plunge	
RIVR 1102	Charting your Course	
RIVR 2101	Navigating Deeper Waters	
Core IMPACTS Area : Mathematics & Quantitative Skills		3-7
DATA 1501	Introduction to Data Science	3
MATH 1001	Quantitative Skills and Reasoning	3
MATH 1101	Introduction to Mathematical Modeling	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1131	Calculus with Analytic Geometry I	4
MATH 1132	Calculus with Analytic Geometry II	4
MATH 1401	Introduction to Statistics	3
MATH 1501	Calculus I	4
STAT 1401	Elementary Statistics	3
Core IMPACTS Area : Political Science and U.S. History		6
HIST 2111	U. S. History to 1865	3
or HIST 2112	U. S. History since 1865	
POLS 1101	American Government	3
Core IMPACTS Area : Arts, Humanities, and Ethics		6
Select one Fine Arts course		3
ARTH 1100	Art Appreciation	
ARTH 2125	Introduction to the History of Art I– Prehistoric through Gothic	
ARTH 2126	Introduction to the History of Art II– Renaissance through Modern	
MUSC 1100	Music Appreciation	
THEA 1100	Theatre Appreciation	
ITDS 1145	Comparative Arts ¹	
Select one Humanities course		3
ENGL 2111	World Literature I	
ENGL 2112	World Literature II	
ITDS 1155	The Western Intellectual Tradition	
ITDS 1774	Introduction to Digital Humanities	
PHIL 2010	Introduction to Philosophy	
ITDS 1145	Comparative Arts ¹	
Core IMPACTS Area : Communicating in Writing		6
ENGL 1101	English Composition I	3

ENGL 1102	English Composition II	3
Core IMPACTS Area : Technology, Mathematics, and Sciences ²		7-11
ANTH 1145	Human Origins	3
ASTR 1105	Descriptive Astronomy: The Solar System	3
ASTR 1106	Descriptive Astronomy: Stars and Galaxies	3
ASTR 1305	Descriptive Astronomy Lab	1
ATSC 1112	Understanding the Weather	3
ATSC 1112L	Understanding the Weather Lab	1
BIOL 1125	Contemporary Issues in Biology Non-Lab	3
BIOL 1215K	Introductory Biology	4
BIOL 1225K	Contemporary Issues in Biology with Lab	4
CHEM 1151 & 1151L	Survey of Chemistry I and Survey of Chemistry I Lab	4
CHEM 1152 & 1152L	Survey of Chemistry II and Survey of Chemistry II Lab	4
CHEM 1211 & 1211L	Principles of Chemistry I and Principles of Chemistry I Lab	4
CHEM 1212 & 1212L	Principles of Chemistry II and Principles of Chemistry II Lab	4
CPSC 1105	Introduction to Computing Principles and Technology	3
CPSC 1301K	Computer Science I	4
CPSC 1305	Introduction to Computing Principles and Technology Lab	1
ENVS 1105	Environmental Studies	3
ENVS 1205K	Sustainability and the Environment	4
GEOG 2215	Introduction to the Geographic Information Systems	3
GEOL 1110	Natural Disasters: Our Hazardous Environment	3
GEOL 1121	Introductory Geoscience I: Physical Geology	3
GEOL 1121L	Introductory Geoscience I: Physical Geology Lab	1
GEOL 1122	Introductory Geo-sciences II: Historical Geology	3
GEOL 1322	Introductory Geo-sciences II: Historical Geology Lab	1
GEOL 2225	The Fossil Record	4
PHYS 1111 & PHYS 1311	Introductory Physics I and Introductory Physics I Lab	4
PHYS 1112 & PHYS 1312	Introductory Physics II and Introductory Physics II Lab	4
PHYS 1125	Physics of Color and Sound	3
PHYS 1325	Physics of Color and Sound Lab	1
PHYS 2211 & PHYS 2311	Principles of Physics I and Principles of Physics I Lab	4
PHYS 2212 & PHYS 2312	Principles of Physics II and Principles of Physics II Lab	4
Core IMPACTS Area : Social Sciences		3
Select one course		
ECON 2105	Principles of Macroeconomics	
ECON 2106	Principles of Microeconomics	
PSYC 1101	Introduction to General Psychology	
SOCI 1101	Introduction to Sociology	
ANTH 1107	Discovering Archaeology	
ANTH 1105	Cultural Anthropology	
ANTH 2105	Ancient World Civilizations	

ANTH 2136	Language and Culture	
ENGL 2136	Language and Culture	
GEOG 1101	World Regional Geography	
HIST 1111	World History to 1500	
HIST 1112	World History since 1500	
ITDS 1156	Understanding Non-Western Cultures	
Core IMPACTS Total Hours		42

- ¹ ITDS 1145 Comparative Arts, though listed under both Fine Arts and Humanities, may be taken only once and can only be counted for one of the two required courses.
- ² At least 4 of the credit hours in this area must be in a lab science course.

Major Requirements

Code	Title	Credit Hours
Core Requirements		
Complete the core requirements for this program		42
Field of Study Requirements Use a general elective to substitute for any course used in Core IMPACTS		
Minimum grade of C is required		
BIOL 1107K	Principles of Biology I	4
BIOL 1108K	Principles of Biology II	4
CHEM 1211	Principles of Chemistry I	3
CHEM 1211L	Principles of Chemistry I Lab	1
CHEM 1212	Principles of Chemistry II	3
CHEM 1212L	Principles of Chemistry II Lab	1
MATH 1113 (apply one hour)		1
Apply one hour of General Electives		1
Field of Study Requirements Total		18
Required for the Major Use a general elective to substitute for any course used in Core IMPACTS		
Minimum grade of C is required		
BIOL 3215K	Cell Biology	4
BIOL 3216K	Genetics	4
BIOL 4796	Biomedical Capstone Senior Seminar	2
Select one of the following options:		4
Option 1:		
BIOL 4392	Undergraduate Research	
BIOL 4393	Research Presentation	
Option 2:		
BIOL 4698	Internship	
Option 3:		
An experiential upper-division BIOL course		
MATH 1113	Pre-Calculus	4
STAT 1401 or DATA 1501		3
PHYS 1111	Introductory Physics I	3
PHYS 1311	Introductory Physics I Lab	1
PHYS 1112	Introductory Physics II	3
PHYS 1312	Introductory Physics II Lab	1
Required for the Major Total		29
Major Electives		

Minimum grade of C is required		
Select 8-11 hours from the following. At least 2 courses must include 8-11 a lab		
BIOL 5117U	Medical Genetics and Genomics	
BIOL 5118U	Neuroscience	
BIOL 5215U	Developmental Biology	
BIOL 5216U	Histology and Histotechniques	
BIOL 5217U	Cell and Molecular Techniques	
BIOL 5218U	Introduction to Virology	
BIOL 5219U	Immunology	
BIOL 5225U	Microbial Pathogenesis	
BIOL 5317U	Genomics and Bioinformatics Lab	
BIOL 5318U	Neuroscience Lab	
BIOL 5515U	Selected Topics in Cell and Molecular Biology	
BIOL 5246U	Entomology	
BIOL 5249U	Parasitology	
BIOL 5265U	Food Microbiology	
Choose 2 additional courses among HESC, PSYC, and SOCI at 3000-level or above		6
Major Electives Total		14-17
General Electives		4-7
General Electives Total		4-7
Total Credit Hours		107-113