

Biology (Bachelor of Arts or Bachelors of Science)

Required Courses:

BIO 1020	General Biology I	3.0
BIO 1020L	General Biology Laboratory I	1.0
BIO 1022	General Biology II	3.0
BIO 1022L	General Biology Laboratory II	1.0
BIO 3110	Genetics (WRT course)	4.0
BIO 3590	Junior Seminar in Biology	1.0
BIO 4605	Evolution	3.0
CHE 1505	General Chemistry I	3.0
CHE 1505L	General Chemistry I Lab	1.0
CHE 1515	General Chemistry II	3.0
CHE 1515L	General Chemistry II Lab	1.0
CHE 2010	Organic Chemistry I	3.0
CHE 2010L	Organic Chemistry I Lab	1.0
CHE 2020	Organic Chemistry II	3.0
CHE 2020L	Organic Chemistry II Lab	1.0
MAT 2090	Statistical Methods	4.0
or		
BIO 2300	Biostatistics	4.0
Total credits required to complete core requirements:		36.0

Biology Sub-Discipline Electives

One Course from Microbiology Group: 3.0-4.0

BIO 3050	Microbiology	3.0
BIO 3050L	Microbiology Laboratory	1.0
BIO 3080	Cell Biology (WRT course)	4.0
BIO 3150	The Biology of Cancer (WRT course)	3.0
BIO 3250	Immunology	3.0
BIO 3910	Virology	3.0

One Course from Molecular and Biochemistry Groups: 4.0

BIO 3055	Molecular Biology (WRT course)	4.0
BIO-CHE 3042	Biochemistry I and	3.0
BIO-CHE 3042L	Biochemistry I Lab (WRT course)	1.0
BIO 4110	Advanced Genetics and Genomics	4.0

One Course from Ecology Group: 4.0-6.0

BIO 3120	Ecology	3.0
BIO 3120L	Ecology Laboratory	1.0
BIO 3121	Plant Ecology (WRT course)	4.0
BIO 3930	Marine and Island Ecology	6.0

One Course from Anatomy and Physiology Groups: 4.0

BIO 2010	Comparative Anatomy	3.0
BIO 2010L	Comparative Anatomy Laboratory	1.0
BIO 2050	General Botany	4.0
BIO 2050L	General Botany Laboratory	0.0
BIO-PSY 2141	Animal Behavior	4.0
BIO 3060	Animal Physiology	3.0

Biology Elective: One additional course from any 3000 4.0-6.0 or above Biology or Biochemistry course.

Total credits required for General Biology Track: 19.0-24.0

**Total credits required to complete major with General
Biology Track:** 55.0-60.0

Molecular Biology Track:

The Molecular Biology Track is ideally suited for students interested in how life works at the molecular level, at the intersection between biochemistry and biology. With the rise of biotechnology and the increasing use of molecular biological applications in industry and medicine, the molecular biology track provides students with a strong background in molecular genetics and molecular laboratory techniques to facilitate their future success in the biotech industry, graduate school, medical school, the research sector, and other biological pursuits.

Required Courses:

BIO 3055	Molecular Biology (WRT course)	4.0
BIO-CHE 3042	Biochemistry I	3.0
BIO-CHE 3042L	Biochemistry I Lab (WRT course)	1.0

At least three courses from the Cell and Molecular Group: 10.0-12.0

BIO 3050	Microbiology	3.0
BIO 3050L	Microbiology Laboratory	1.0
BIO 3080	Cell Biology (WRT course)	4.0
BIO 3150	The Biology of Cancer (WRT course)	3.0
BIO 3250	Immunology	3.0
BIO 3910	Virology	3.0
BIO-CHE 3062	Biochemistry II	3.0
BIO-CHE 3062L	Biochemistry Laboratory II	1.0
BIO 4110	Advanced Genetics and Genomics	4.0

At least one course from the Ecology Group: 4.0-6.0

BIO 3120	Ecology	3.0
BIO 3120L	Ecology Laboratory	1.0
BIO 3121	Plant Ecology (WRT course)	4.0
BIO 3930	Marine and Island Ecology	6.0

Total credits required for Molecular Biology Track 22.0-26.0

Total credits required to complete major with Molecular Biology Track:58.0-62.0

Medical Biology Track:

The Medical Biology Track is for students who intend to become health care professionals (physicians, dentists, veterinarians, etc.). After successful completion, the student will have obtained the content and skills needed for the transition to professional school in the medical field. Students should check with the graduate programs to which they are applying for a list of current pre-requisites. Consultation with the Pre-Health Professions Advisor is strongly recommended.

Required Courses:

BIO 2010	Comparative Anatomy	3.0
BIO 2010L	Comparative Anatomy Laboratory	1.0
BIO 3050	Microbiology	3.0
BIO 3050L	Microbiology Laboratory	1.0
BIO 3060	Animal Physiology	3.0
BIO 3060L	Animal Physiology Laboratory	1.0
BIO 3500	Developmental Biology	4.0
BIO-CHE 3042	Biochemistry I	3.0
and		
BIO-CHE 3042L	Biochemistry I Lab (WRT course)	1.0

At least one course from: 3.0-4.0

BIO 3055	Molecular Biology (WRT course)	4.0
BIO 3080	Cell Biology (WRT course)	4.0
BIO 3150	The Biology of Cancer (WRT course)	3.0
BIO 3250	Immunology	3.0
BIO 3910	Virology	3.0

At least one course from: 4.0-6.0

BIO 3075	Plant Physiology	4.0
BIO 3120	Ecology	3.0
BIO 3120L	Ecology Laboratory	1.0
BIO 3121	Plant Ecology (WRT course)	4.0
BIO 3930	Marine and Island Ecology	6.0

Total credits required for Medical Biology Track: 27.0-30.0

Total credits required to complete major with Medical Biology Track:63.0-66.0

*Note: There are additional courses required by medical schools.

Students must include all of the following courses in preparation for medical school:

PHY 2100	Physics for the Life Sciences I	3.0
PHY 2150L	Physics Laboratory I	1.0
PHY 2110	Physics for the Life Sciences II	3.0
PHY 2160L	Physics Laboratory II	1.0

The following courses are strongly suggested for students considering medical school:

BIO 3400	Topics in Bioethics	3.0
BIO-CHE 3062	Biochemistry II	3.0
BIO-CHE 3062L	Biochemistry Laboratory II	1.0
MAT 2010	Calculus I	4.0
MAT 2010L	Calculus I Lab	0.0
PSY 1010	Introductory Psychology	3.0
SOC 1010	Introductory Sociology	3.0

Adolescence Education: Biology

Adolescence Education: Biology is a group of carefully selected courses which, in addition to the pedagogical courses, will provide an excellent foundation for high school biology teachers. Students completing this program will have coursework from all areas necessary for teaching biology at the high school level: the chemistry of life, cell and molecular biology, structure and function, genetics, botany, behavior, ecology, and evolution.

		credits
Required Courses:		
BIO 2050	General Botany	4.0
BIO 2050L	General Botany Laboratory	0.0
BIO 3050	Microbiology	3.0
BIO 3050L	Microbiology Laboratory	1.0
BIO 3055	Molecular Biology (WRT course)	
or		4.0
BIO 3080	Cell Biology (WRT course)	
BIO-PSY 2141 Animal Behavior		4.0
One of the following:		4.0-6.0
BIO 3120	Ecology	3.0
BIO 3120L	Ecology Laboratory	1.0
BIO 3121	Plant Ecology (WRT course)	4.0
BIO 3930	Marine and Island Ecology	6.0
Total credits required for Adolescence Education: Biology:		20.0-22.0
Total credits required to complete major with Adolescence Education:		
Biology:		56.0-58.0