

# BIOCHEMISTRY & MOLECULAR BIOLOGY (SECOND MAJOR ONLY)

## Requirements

Below is a sample plan of study that illustrates one way to achieve the program requirements. Any given student's plan of study may differ based on a variety of factors (e.g., advanced credit, placement exams, adding a minor). Enrolled students will work with their academic advisor; utilize the degree audit/planner to create a specific plan of study.

## Required Courses

Code	Title	Hours
<b>Required Courses</b>		
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Lab	1
CHEM 113	General Chemistry II	3
CHEM 113L	General Chemistry II Laboratory	1
CHEM 115	General Chemistry III	3
CHEM 115L	General Chemistry III Laboratory	1
CHEM 251	Organic Chemistry I	3
CHEM 251L	Organic Chemistry I Laboratory	1
CHEM 252	Organic Chemistry II	3
CHEM 252L	Organic Chemistry II Laboratory	1
CHEM 253	Organic Chemistry III	3
CHEM 253L	Organic Chemistry III Laboratory	1
CHEM 330	Biochemistry I	4
CHEM 430	Advanced Biochemistry	4
CHEM 433	Biochemistry Laboratory	1
Select one of the following:		8-12
CHEM 361 & CHEM 362	Physical Chemistry I and Physical Chemistry II	
Or		
CHEM 360 & CHE 303 & CHE 304	Introduction to Physical Chemistry for Engineers and Chemical Engineering Thermodynamics and Multi-Component Thermodynamics	
BIO 110	Cell Structure and Function	4
BIO 120	Comparative Anatomy & Physiology	4
BIO 130	Evolution & Diversity	4
BIO 210	Mendelian & Molecular Genetics	4
BIO 220	Microbiology	4
BIO 230	Cell Biology	4
Genetics Elective <sup>1</sup>		4
Advanced Electives (most majors) <sup>2</sup>		12
Advanced Electives (CHEM majors) <sup>3</sup>		8

be named, required courses in a student's other majors or minors but may count as electives for other majors or minors.

<sup>3</sup> Chemistry majors are required to only take 8 credits of advanced electives, but they must not be CHEM courses.

**Students with a major in Biology** must take 8 credits from the elective courses listed above with a CHEM prefix, and 4 credits from any 300 level or above BIO course (total: 29 hours required beyond Biology major).

<sup>1</sup> Genetics Elective must be a course that has BIO210 as a prerequisite or any course approved by the major advisor. Examples include BIO411, BIO431, and CHEM331.

<sup>2</sup> Advanced Electives include CHEM225, PH302, or any 300 level or greater CHEM, BIO, or BMTH course. For Biology majors, 8 of the Advanced Elective credits must not be BIO courses. Electives may not