

BACHELOR OF SCIENCE in BIOLOGY
Molecular Biology Option

Revised 10/18 GPC

Concepts in Biology I (BIOL 114) and *Concepts in Biology II* (BIOL 115) should be taken during the freshman year; *Microbiology* (BIOL 242) and *Cell Biology* (BIOL 271) should be taken during the sophomore year. A minimum of forty three (43) credit hours in biology is required. In addition to the 31 credit hours of required, specified courses listed on this page, the student selects 12 credit hours of approved elective courses in biology.

Chemistry and mathematics courses should be scheduled as early as possible in the program of study. *Applied Statistics for the Behavioral Sciences* (PSYCH 160) may be substituted for *Introduction to Statistics* (MATH 141) provided that a foundational math course is taken in the first year.

<p>Biology Core Requirements (30 cr hrs) <input type="checkbox"/></p> <p>BIOL 114 Concepts in Biology 1 4 <input type="checkbox"/></p> <p>BIOL 115 Concepts in Biology 2 4 <input type="checkbox"/></p> <p>BIOL 242 Microbiology 4 <input type="checkbox"/></p> <p>BIOL 271 Cell Biology 4 <input type="checkbox"/></p> <p>BIOL 332 Genetics 3 <input type="checkbox"/></p> <p>BIOL 333 Molecular Biology 3 <input type="checkbox"/></p> <p>BIOL 334 Molecular Biology Lab 1 <input type="checkbox"/></p> <p>BIOL 390 Res. In Biology I</p> <p>OR</p> <p>BIOL 493 Honors Ind. Study I 3 <input type="checkbox"/></p>	<p>Chemistry Requirement (16 hrs) <input type="checkbox"/></p> <p>CHEM 115 Chem for the Sciences 1 4 <input type="checkbox"/></p> <p>CHEM 116 Chem for the Sciences 2 4 <input type="checkbox"/></p> <p>CHEM 230 Fund of Org Chem 4 <input type="checkbox"/></p> <p>CHEM 341 Biochemistry 1 4 <input type="checkbox"/></p>
<p>Physiology Requirement (Select BIOL 479 AND one lecture course from among BIOL 472, 474, 477, 478, and 480)</p> <p>BIOL 479 Integrated Physiology Lab 1 <input type="checkbox"/></p> <p>AND</p> <p>BIOL 472 Animal Cell Physiology 3 <input type="checkbox"/></p> <p>BIOL 474 Human Physiology 3 <input type="checkbox"/></p> <p>BIOL 477 Plant Physiology 3 <input type="checkbox"/></p> <p>BIOL 478 Microbial Physiology 3 <input type="checkbox"/></p> <p>BIOL 480 Comparative Animal Physiol 3 <input type="checkbox"/></p>	<p>Physics Requirement (8 cr hrs; select one pair) <input type="checkbox"/></p> <p>PHYS 201 Introductory Physics 1 4 <input type="checkbox"/></p> <p>PHYS 202 Introductory Physics 2 4 <input type="checkbox"/></p> <p>OR</p> <p>PHYS 211 General Physics 1 4 <input type="checkbox"/></p> <p>PHYS 212 General Physics 2 4 <input type="checkbox"/></p>
<p>Biology Elective Requirement (12 cr hrs) Select 12 cr hrs of biology or chemistry electives on p. 2:</p> <p>BIOL _____ 3 <input type="checkbox"/></p> <p>BIOL _____ 3 <input type="checkbox"/></p> <p>BIOL _____ 3 <input type="checkbox"/></p> <p>_____ 3 <input type="checkbox"/></p>	<p>Mathematics Requirement (6 cr hrs; select one pair) <input type="checkbox"/></p> <p>MATH 123 Essentials of Calculus 3 <input type="checkbox"/></p> <p>MATH 141 Introduction to Statistics 3 <input type="checkbox"/></p> <p>OR</p> <p>MATH 125 Calculus 1 3 <input type="checkbox"/></p> <p>MATH 141 Introduction to Statistics 3 <input type="checkbox"/></p> <p>OR</p> <p>MATH 125 Calculus 1 3 <input type="checkbox"/></p> <p>MATH 126 Calculus 2 3 <input type="checkbox"/></p>

Biology Elective Courses

BIOL 212 Vertebrate Zoology	3	<input type="checkbox"/>
BIOL 342 Medical Microbiology	3	<input type="checkbox"/>
BIOL 343 Immunology	3	<input type="checkbox"/>
BIOL 350 Plant Pathology	3	<input type="checkbox"/>
BIOL 351 Ecology	4	<input type="checkbox"/>
BIOL 361 Comp Vert Anatomy	4	<input type="checkbox"/>
BIOL 364 Vertebrate Histology	3	<input type="checkbox"/>
BIOL 391 UG Research in Biol 2	3	<input type="checkbox"/>
BIOL 411 Radiation Biology	3	<input type="checkbox"/>
BIOL 430 Evolution	3	<input type="checkbox"/>
BIOL 431 Developmental Biology	3	<input type="checkbox"/>
BIOL 432 Microbial & Molec Biol	3	<input type="checkbox"/>
BIOL 435 Bioinformatics	3	<input type="checkbox"/>
BIOL 442 Virology	3	<input type="checkbox"/>
BIOL 443 Advanced Immunology	3	<input type="checkbox"/>
BIOL 444 Plant Animal Tissue Cult	3	<input type="checkbox"/>
BIOL 455 Environmental Micro	3	<input type="checkbox"/>
BIOL 460 Population Biology	3	<input type="checkbox"/>
BIOL 470 Medical Parasitology	3	<input type="checkbox"/>
BIOL 472 Animal Cell Physiology	3	<input type="checkbox"/>
BIOL 474 Human Physiology	3	<input type="checkbox"/>
BIOL 476 Neurophysiology	3	<input type="checkbox"/>
BIOL 477 Plant Physiology	3	<input type="checkbox"/>
BIOL 478 Microbial Physiology	3	<input type="checkbox"/>
BIOL 480 Comp Animal Physiology	3	<input type="checkbox"/>
BIOL 489 Current Topics in Biol ⁺⁺	3	<input type="checkbox"/>
BIOL 490 Internship Biol/AHS	3	<input type="checkbox"/>
BIOL 494 Honors Indep Study 2	3	<input type="checkbox"/>
CHEM 442 Biochemistry II	4	<input type="checkbox"/>

⁺⁺ requires advisor approval

Restrictions on Courses

1. A maximum of 3 cr hrs of BIOL 490 may be applied as biology elective credit toward the degree.
2. A maximum of 6 cr hrs from among BIOL 391, 490, and 494 may be applied as biology elective credit.
3. A limit of 6 cr hrs from Current Topics courses (BIOL 489) can be applied as elective biology credit.

General Education Requirements

<p>Goal 1: Communication (7 points; 3 departments)</p> <p>ENG 101 Foundations of Coll Writ 3</p> <p>BIOL 290 Writing in Biology* 2</p> <p>CHEM 341 Biochemistry 1 1</p> <p>_____</p> <p>_____</p>	<p>Goal 6: Social Sciences (5 points; 2 departments)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Goal 2: Information Literacy (2 points; 1 department)</p> <p>BIOL 290 Writing in Biology* 1</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Goal 7: Arts and Humanities (5 points; 2 departments)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Goal 3: Analytical and Quantitative Skills (5 points; 2 departments)</p> <p>CHEM 115 Chem for the Sci 1 1</p> <p>BIOL 114 Concepts in Biology 1 1</p> <p>MATH 141 Intro Stats 3</p> <p>MATH 123 Essentials of Calculus 3</p> <p>(MATH 125 Calculus 1 2)</p>	<p>Goal 8: Second Language (2 points; 1 department)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Goal 4: Cultures and Diversity (5 points; 2 departments)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Goal 9: Healthy Living (2 points; 1 department)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Goal 5: Natural Sciences (5 points; 2 departments)</p> <p>BIOL 114 Concepts in Biology 1 3</p> <p>CHEM 115 Chem for the Sci 1 3</p> <p>_____</p> <p>_____</p>	<p>Goal 10: Citizenship (2 points; 1 department)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

* recommended second writing course

Credit Counting Worksheet

Course Credits	Name	Course Credits	Name
Credits from page 1	_____	_____	_____
Below list all courses not listed on page 1			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

*Sum total of all courses must add up to 120 cr hrs or more.