

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

**Biology Elective Courses**

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

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

\* recommended second writing course

