

**BACHELOR OF SCIENCE in BIOLOGY**  
**Pre-medical Sciences Option**

Revised 10/21 ARH

*Concepts in Biology 1* (BIOL 114) and *Concepts in Biology 2* (BIOL 115) should be taken during the freshman year; *Microbiology* (BIOL 242) and *Cell Biology* (BIOL 271) should be taken during the sophomore year. *Anatomy and Physiology 1 and 2* (BIOL 173 and 174) should be taken before the junior year. A minimum of thirty-nine (39) credit hours in biology is required. In addition to the 27 credit hours of required, specified courses listed on this page, the student selects 12 credit hours of elective courses in biology.

Chemistry and mathematics courses should be scheduled as early as possible in the program of study.

<p><b>Biology Core Requirements</b> (27 cr hrs)</p> <p>BIO 114 Concepts in Biology 1           4                      BIO 115 Concepts in Biology 2           4                      BIO 242 Microbiology                   4                      BIO 271 Cell Biology                    4                      BIO 332 Genetics                        3                      *BIO 351 Ecology                        4</p> <p>*Fall only course</p>	<p><b>Chemistry Requirement</b> (16 cr hrs)</p> <p>CHEM 115 Chem for Sciences 1           4                      CHEM 116 Chem for Sciences 2           4                      CHEM 230 Fund of Organic Chem*       4                      CHEM 341 Biochemistry                 4</p> <p><b>*Due to professional school requirements, CHEM 231 and CHEM 232 should be substituted.</b></p>
<p><b>Physiology Requirement</b> (Select BIOL 479 AND one lecture course from among BIOL 472, 474, and 480)</p> <p>BIO 479 Integrated Physiol Lab           1                      With one of the following:                      BIO 472 Animal Cell Physiology           3                      BIO 474 Human Physiology               3                      BIO 480 Comp Animal Physiology         3</p>	<p><b>Physics Requirement</b> (8 cr hrs; select one pair)</p> <p>PHYS 201 Introductory Physics 1         4                      PHYS 202 Introductory Physics 2         4</p> <p><b>OR</b></p> <p>PHYS 211 General Physics 1             4                      PHYS 212 General Physics 2             4</p>
<p><b>Biology Elective Requirement</b> (12 cr hrs)                      Select 12 cr hrs of biology electives listed and list them below</p> <p>BIO _____                           3                      BIOL _____                          3                      BIOL _____                          3                      BIOL _____                          3</p>	<p><b>Mathematics Requirement</b> (6 cr hrs: select one pair)</p> <p>MATH 123 Essentials of Calculus           3                      MATH 141 Introduction to Statistics    3</p> <p><b>OR</b></p> <p>MATH 125 Calculus 1                     3                      MATH 126 Calculus 2                     3</p>

**Biology Elective Courses\***

\*Other approved biology courses may be substituted with written consent of pre-medical sciences advisor.

BIOL 174 Anatomy and Physiology 2	4
BIOL 212 Vertebrate Zoology	3
BIOL 233 Human Genetics	3
BIOL 333 Molecular Biology	3
BIOL 334 Molecular Biology Lab	1
BIOL 342 Medical Microbiology	3
BIOL 343 Immunology	3
BIOL 361 Comp Vert Anatomy	3
BIOL 364 Vertebrate Histology	3
BIOL 390 UG Research in Biol 1	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 Genetics	3
BIOL 435 Bioinformatics	3
BIOL 442 Virology	3
BIOL 443 Advanced Immunology	3
BIOL 444 Plant Animal Tissue Cult	3
BIOL 445 Pharm for Health Sciences	3
BIOL 450 Mycology	3
BIOL 455 Environ Microbiology	3
BIOL 460 Population Biology	3
BIOL 470 Medical Parasitology	3
BIOL 476 Neurophysiology	3
BIOL 489 Current Topics in Biol	3
BIOL 490 Internship Biol/AHS	3
BIOL 493 Honors Indep Study 1	3
BIOL 494 Honors Indep Study 2	3

**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 390, 391, 490, 493 and 494 may be applied as biology elective credit.
3. A limit of 6 cr hrs of Current Topics courses (BIOL 489) can be applied as elective biology credit.
4. Due to professional school requirements, BIOL 174 should be taken at BU or another four-year college or university. BIOL 173 is a prerequisite for BIOL 174.

## General Education Requirements

<p><b>Goal 1: Communication*</b> ( 7 points; 3 departments)</p> <p><u>ENG 101 Foundations of Coll Writ</u> <u>3</u></p> <p><u>CHEM 341 Biochemistry 1</u> <u>1</u></p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>Goal 6: Social Sciences**</b> (5 points; 2 departments)</p> <p><u>PSYH 101 General Psych</u> <u>3</u></p> <p><u>SOC 211 Principles of Sociology</u> <u>3</u></p> <p>_____</p> <p>_____</p> <p>_____</p>
<p><b>Goal 2: Information Literacy</b> ( 2 points; 1 department)</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><b>Goal 3: Analytical and Quantitative Skills</b> (5 points; 2 departments)</p> <p><u>BIOL 114 Concepts in Biology 1</u> <u>1</u></p> <p><u>CHEM 115 Chem for the Sci 1</u> <u>1</u></p> <p><u>MATH 141 Intro Stats*</u> <u>3</u></p> <p><u>MATH 123 Essentials of Calc*</u> <u>3</u></p> <p>_____</p> <p>(*May substitute Calc 1 and 2 for 5 points)</p>	<p><b>Goal 8: Second Language</b> (2 points; 1 department)</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><b>Goal 9: Healthy Living</b> (2 points; 1 department)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p><b>Goal 5: Natural Sciences</b> (5 points; 2 departments)</p> <p><u>BIOL 114 Concepts in Biology 1</u> <u>3</u></p> <p><u>CHEM 115 Chem for the Sci 1</u> <u>3</u></p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>Goal 10: Citizenship</b> (2 points; 1 department)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

\* A second course in English writing course must be used for communication to satisfy the requirements of professional school admission.

\*\* Courses in Psychology and Sociology are needed to satisfy the requirements of professional school admission.

