

## 3+2 BACHELOR OF ARTS / MASTER OF SCIENCE in BIOLOGY: General Biology Option and Thesis Track

Department of Biological and Allied Health Sciences, College of Science and Technology  
Effective Fall 2017

At Bloomsburg University qualified undergraduate students may participate in an Accelerated Bachelor's to Master's degree program or an Early/Dual Admission program to a professional Master's degree program.

The Accelerated Program permits qualified students with junior standing to take graduate coursework in order to get an early start on the Master's program. The total number of credits required for both the undergraduate and graduate degrees would be reduced by the number of graduate credits used to satisfy requirements for the undergraduate degree. For example, completing both an undergraduate degree program requiring 120 credits and a graduate degree program requiring 30 credits could be accomplished with a combined total of 138 credits. An example would be a Biology undergraduate interested in a Master's program in Biology (M.S.).

The Early/Dual Admission Program permits qualified undergraduate students to enter into a graduate program without first earning the Bachelor's degree with the intent of earning both Bachelor's and Master's degrees upon successful completion of the combined programs. Examples would include but not be limited to the Business Administration (M.B.A.) and Instructional Technology (M.S.) programs.

Concepts in Biology 1 (BIOLOGY.114) and Concepts in Biology 2 (BIOLOGY.115) should be taken during the freshman year; Microbiology (BIOLOGY.242) and Cell Biology (BIOLOGY.271) should be taken during the sophomore year. Students must complete  $\geq 90$  credit hours and maintain a  $\geq 3.0$  GPA in order to enroll in graduate courses in their 4<sup>th</sup> year. In addition to the specified courses listed on this page, the student selects 21 credit hours of approved graduate elective courses in biology and marine science.

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

### Biology Core Requirements (28 credits):

- BIOLOGY.114 Concepts in Biology I
- BIOLOGY.115 Concepts in Biology II
- BIOLOGY.242 Microbiology
- BIOLOGY.271 Cell Biology
- BIOLOGY.332 Genetics
- BIOLOGY.351 Ecology
- BIOLOGY 593 Master of Science Thesis

### Physiology Requirement (4 credits)

Required lab course:

- BIOLOGY.479 Integrated Physiology Laboratory

With one of the following lecture courses:

- BIOLOGY.472 Animal Cell Physiology
- BIOLOGY.474 Human Physiology
- BIOLOGY.477 Plant Physiology
- BIOLOGY.478 Microbial Physiology
- BIOLOGY.480 Comparative Animal Physiology

### Physical Science Requirement (12 credits)

- CHEM.115 Chemistry for the Sciences I
- CHEM.116 Chemistry for the Sciences II

And Either

- CHEM.230 Fund of Organic Chemistry OR PHYSICS.201 Introductory Physics 1

Mathematics Requirement (6 credits)

- MATH.141 Introduction to Statistics
- MATH.546 Biostatistics

Biology/Marine Science Elective Requirement (21 credits)

(21 cr hrs of biology and/or marine science graduate electives selected from the lists below. A total of 21 credits, which includes BIOLOGY.593 Master of Science Thesis and MATH.546 Biostatistics, must be taken at the 500 level.)

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| BIOLOGY.455 Environmental Microbiology     | HLTHSCI.545 Pharmacology                 |
| BIOLOGY.457 Entomology                     | MARSCI.431 Ecology Marin Plankton        |
| BIOLOGY.472 Animal Cell Physiology         | MARSCI.432 Marine Evolutionary Ecology   |
| BIOLOGY.474 Human Physiology               | MARSCI.441 Biology of Molluscs           |
| BIOLOGY.477 Plant Physiology               | MARSCI.464 Biological Oceanography       |
| BIOLOGY.520 Global Change Biology          | MARSCI.470 Research Diver Methods        |
| BIOLOGY.521 Ecosystem Management           | MARSCI.471 SEM: Marine Applications      |
| BIOLOGY.530 Evolution                      | MARSCI.490 Marine Aquaculture            |
| BIOLOGY.531 Developmental Biology          | MARSCI.491 Coral Reef Ecology            |
| BIOLOGY.532 Microbial & Molecular Genetics | MARSCI.492 Marine Mammals                |
| BIOLOGY.535 Bioinformatics                 | MARSCI.500 Problems in Marine Science    |
| BIOLOGY.542 Virology                       | MARSCI.533 Adv. Methods in Coastal Ecol. |
| BIOLOGY.551 Conservation Biology           | MARSCI.540 Environ. Science Education    |
| BIOLOGY.552 Limnology                      | MARSCI.551 Coast Environ. Oceanography   |
| BIOLOGY.559 Ornithology                    | MARSCI.570 Research Cruise               |
| BIOLOGY.560 Population Biology             | MARSCI.593 Behavioral Ecology            |
| BIOLOGY.561 Animal Behavior                |  |
| BIOLOGY.570 Medical Parasitology           |  |
| BIOLOGY.571 Endocrinology                  |  |
| BIOLOGY.573 Cancer Biology                 |  |
| BIOLOGY.576 Neurophysiology                |  |
| BIOLOGY.580 Comparative Animal Physiology  |  |
| BIOLOGY.589 Current Topics in Biology      |  |

General Education Requirements

- |        |                         |         |                         |
|--------|-------------------------|---------|-------------------------|
| Goal 1 | 7 points: 3 departments | Goal 6  | 5 points: 2 departments |
| Goal 2 | 2 points: 1 departments | Goal 7  | 5 points: 2 departments |
| Goal 3 | 5 points: 2 departments | Goal 8  | 2 points: 1 departments |
| Goal 4 | 5 points: 2 departments | Goal 9  | 2 points: 1 departments |
| Goal 5 | 5 points: 2 departments | Goal 10 | 2 points: 1 departments |

**\*Sum total of all courses must add up to 138 Credit Hours or more.**