BIOLOGY MAJOR, ENVIRONMENTAL SCIENCE/BIOLOGY CONCENTRATION (B.S.)

A minimum of 120 credits of coursework is required for the baccalaureate degree with a minimum 2.0 overall GPA, and a minimum 2.0 major GPA. However, more than 120 credits may be required depending upon the major field of study.

Program Requirements

Students must complete 42 credits of General Education requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/general-ed-ba-bs) and 3-9 credits of World Languages and Cultures Requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/world-languages-cultures-requirement).

Biology Major Requirements

BIOL 112 Principles of Biology I 4
BIOL 113 Principles of Biology II 4
BIOL 213 Introduction to Ecology 4
BIOL 230 Cell and Molecular Biology 4
BIOL 380 Genetics 4
BIOL 417 Evolutionary Biology 3

Major Electives - Environmental Science

Select two courses from the list (see below) 7

Environmental Science Concentration

EAES 105 Physical Geology 4
Select three of the following: 9-12
- EAES 210 Introduction to GIS and Remote Sensing
- EAES 230 Hydrology
- EAES 240 Historical Geology
- EAES 322 Environmental Geochemistry
- EAES 331 Geohydrology
- EAES 340 Sedimentology
- EAES 341 Principles of Soil Science
- EAES 451 Coastal Marine Geology

Collateral Chemistry Courses

CHEM 120 General Chemistry I 4
CHEM 121 General Chemistry II 4
CHEM 230 Organic Chemistry I 3
CHEM 231 Organic Chemistry II 3
CHEM 232 Experimental Organic Chemistry I 2

Collateral Mathematics Courses

Select one of the following sequences: 8
- MATH 110 Statistics for the Biological Sciences & MATH 116 and Calculus A
- MATH 122 Calculus I & MATH 221 and Calculus II

Collateral Physics Courses

Select one of the following sequences: 8

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Total Credits 75-78

Major Electives - Environmental Science

- BIMS 220 Introduction to Marine Biology 4
- BIOL 300 Environmental Biology and Related Controversial Issues 3
- BIOL 330 Introduction to Animal Behavior 3
- BIOL 350 Microbiology 4
- BIOL 370 Principles of Ecology 3
- BIOL 404 Plant and Animal Histological Techniques 3
- BIOL 405 Cell Culture 3
- BIOL 406 Scanning Electron Microscopy 4
- BIOL 409 Externship in Biological Research (Co-operative Education) 1-4
- BIOL 410 Toxicology 3
- BIOL 411 Introduction to Transmission Electron Microscopy 4
- BIOL 415 Population Genetics 3
- BIOL 418 Biology Independent Research 1-4
- BIOL 420 Economic Botany 3
- BIOL 425 Elementary Plant Physiology 3
- BIOL 426 New Jersey Flora 4
- BIOL 429 Herpetology 4
- BIOL 430 Ornithology 4
- BIOL 431 Entomology 3
- BIOL 432 Medical Entomology 3
- BIOL 433 Developmental Biology 4
- BIOL 434 Molecular Biology 3
- BIOL 435 Experimental Molecular Biology 3
- BIOL 436 Phylogenetic Zoology 4
- BIOL 439 Biology of Animal Parasites 3
- BIOL 440 Gross Mammalian Anatomy 4
- BIOL 441 Comparative Anatomy of Vertebrates 4
- BIOL 442 Human Physiology 4
- BIOL 443 Vertebrate Embryology 4
- BIOL 444 Cell Physiology 3
- BIOL 445 Immunology 3
- BIOL 446 Endocrinology 3
- BIOL 447 Fundamentals of Pharmacology 3
- BIOL 448 Mammalian Microanatomy 4
- BIOL 450 Medical Microbiology 3
- BIOL 451 Comparative Animal Physiology 3
- BIOL 460 Biological Oceanography 3
- BIOL 461 Aquatic Ecology 3
- BIOL 475 Medical Genetics 3
- BIOL 476 Biology of Cancer 3
- BIOL 480 Research Community I: Organism Biology 4
- BIOL 481 Research Community II: Organism Biology 4
- BIOL 484 Research Community I: Ecology 4
- BIOL 485 Research Community II: Ecology 4
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<tr>
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<tr>
<td>BIOL 486</td>
<td>Selected Topics in Biology</td>
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</tr>
<tr>
<td>BIOL 489</td>
<td>Selected Topics in Organismal Biology</td>
<td>3-4</td>
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<tr>
<td>BIOL 493</td>
<td>Molecular Ecology</td>
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