

BIOLOGY (M.S.)

For details about this program, including program description, admission requirements, and contact information, click here (<https://www.montclair.edu/graduate/programs-of-study/biology-ms/>).

Program Requirements

| Code | Title | Credits |
|--|--|-----------|
| Required Courses | | |
| BIOL 520 | Plant Physiology | 3 |
| or BIOL 540 | Mammalian Physiology | |
| BIOL 547 | Molecular Biology I | 3 |
| BIOL 570 | Ecology | 3 |
| BIOL 597 | Research in Biological Literature | 1 |
| Electives and Culminating Experience | | |
| <i>Biology Areas of Emphasis</i> | | |
| Select 16-19 credits from the list below. ¹ | | 16-19 |
| <i>Thesis or Non-Thesis Option</i> | | |
| Select one of the following: | | 4-6 |
| Thesis Option | | |
| BIOL 698 | Master's Thesis | |
| Submit the completed Thesis original and one copy to the Graduate Office. See Thesis Guidelines for details. | | |
| Research or Lab/Field Course Option | | |
| BIOL 599 | Introduction to Biological Research ² | |
| GRAD CMP | Comprehensive Examination | |
| In the term that you will sit for exam, register for the section which matches your major & advisor. Successfully pass exam. | | |
| Total Credits | | 32 |

¹ BIOL 514 is recommended.

² Or Biology/Lab Field course approved by Graduate Program Coordinator.

Biology Areas of Emphasis

| Code | Title | Credits |
|----------|---|---------|
| BIOL 500 | Introductory Molecular Cell Biology | 1.5 |
| BIOL 510 | Biology Pedagogy for Secondary Teachers | 3 |
| BIOL 512 | Special Topics in Modern Genetics | 3 |
| BIOL 514 | Graduate Seminar in Biology | 2 |
| BIOL 518 | Strategies for Teaching College Biology | 1 |
| BIOL 520 | Plant Physiology | 3 |
| BIOL 521 | Field Studies of Flowering Plants | 4 |
| BIOL 529 | Advanced Herpetology | 4 |
| BIOL 532 | Advanced Entomology | 3 |
| BIOL 533 | Advanced Cell Biology | 3 |
| BIOL 535 | Advanced Community Ecology | 3 |
| BIOL 540 | Mammalian Physiology | 3 |
| BIOL 542 | Advanced Endocrinology | 3 |
| BIOL 543 | Advances in Immunology | 3 |
| BIOL 544 | Advanced Comparative Animal Physiology | 3 |
| BIOL 545 | Experimental Endocrinology | 4 |
| BIOL 546 | Special Topics in Physiology | 3 |

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| BIOL 548 | Molecular Biology II | 4 |
| BIOL 549 | Special Topics in Developmental Biology | 3 |
| BIOL 550 | Special Topics in Microbiology | 3 |
| BIOL 552 | Biology of Lipids | 3 |
| BIOL 554 | Microbial Physiology | 3 |
| BIOL 555 | Medical Genetics | 3 |
| BIOL 556 | Molecular Biology of Proteins | 3 |
| BIOL 557 | Virology | 3 |
| BIOL 558 | Microbial Genetics | 3 |
| BIOL 560 | Molecular Genetics | 3 |
| BIOL 571 | Physiological Plant Ecology | 4 |
| BIOL 574 | Behavioral Ecology | 3 |
| BIOL 575 | Avian Biology | 4 |
| BIOL 576 | Biology of Extreme Habitats | 3 |
| BIOL 578 | Urban Ecology | 3 |
| BIOL 579 | Physiological Ecology of Animals | 3 |
| BIOL 580 | Evolutionary Mechanisms | 3 |
| BIOL 586 | Special Topics in Advanced Biology | 3-4 |
| BIOL 592 | Graduate Colloquium | 1 |
| BIOL 593 | Molecular Ecology | 3 |
| BIOL 594 | Signal Transduction | 3 |
| BIOL 595 | Conservation Biology: The Preservation of Biological Diversity | 3 |
| BIOL 596 | Selected Techniques in Biology Science Education | 1.5 |
| BIOL 598 | Selected Techniques in Molecular Biology | 1.5 |
| 0-4 credits from the following may be used: | | |
| BIOL 572 | Wetland Ecology | 4 |
| BIOL 573 | Shoreline Ecology | 4 |
| 0-6 credits from the following may be taken with advisor approval: | | |
| CHEM 530 | Advanced Organic Chemistry | 3 |
| CHEM 532 | Organic Synthesis | 3 |
| CHEM 570 | Advanced Biochemistry | 3 |
| EAES 505 | Environmental Geoscience | 3 |
| EAES 526 | Geochemistry | 3 |
| EAES 545 | Paleoecology | 3 |
| EAES 550 | Advanced Marine Geology | 3 |