

MOLECULAR 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/molecular-biology-ms/>).

Program Requirements

| Code | Title | Credits |
|---|-------------------------------------|-----------|
| Core Courses | | |
| BIOL 547 | Molecular Biology I | 3 |
| BIOL 548 | Molecular Biology II | 4 |
| BIOL 556 | Molecular Biology of Proteins | 3 |
| BIOL 592 | Graduate Colloquium | 1 |
| Research in Biological Literature | | |
| BIOL 597 | Research in Biological Literature | 1 |
| Electives and Culminating Activity | | |
| <i>Concentration/Specialization Courses</i> | | |
| Select 14 credits (if completing a thesis) - 17 credits (if completing 14-17 BIOL 599 or a Lab course) from the list below. | | |
| <i>Culminating Activity</i> | | |
| Select one of the following options: | | 3-6 |
| Thesis | | |
| BIOL 698 | Master's Thesis | |
| Complete BIOL 698 for 6 credits. Submit the completed Thesis original and one copy to the Graduate Office. See Thesis Guidelines for details. | | |
| Non-Thesis Research Option | | |
| BIOL 599 | Introduction to Biological Research | |
| Complete BIOL 599 for 4 credits. Present a research summary to a committee of 3 faculty members. Results are reported to the Graduate School. | | |
| Non-Thesis Lab Option | | |
| Complete a Laboratory Course for 3-4 credits with approval from graduate advisor. | | |
| Present a research summary to a committee of 3 faculty members. Results are reported to the Graduate School. | | |
| Total Credits | | 32 |

Electives

| Code | Title | Credits |
|-------------------|---|---------|
| Biology Electives | | |
| BIOL 505 | Experimental Cell Culture | 3 |
| BIOL 512 | Special Topics in Modern Genetics | 3 |
| BIOL 515 | Population Genetics | 3 |
| BIOL 520 | Plant Physiology | 3 |
| BIOL 533 | Advanced Cell Biology | 3 |
| BIOL 535 | Advanced Community Ecology | 3 |
| BIOL 540 | Mammalian Physiology | 3 |
| BIOL 549 | Special Topics in Developmental Biology | 3 |
| BIOL 550 | Special Topics in Microbiology | 3 |
| BIOL 552 | Biology of Lipids | 3 |
| BIOL 555 | Medical Genetics | 3 |
| BIOL 557 | Virology | 3 |

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| BIOL 558 | Microbial Genetics | 3 |
| BIOL 560 | Molecular Genetics | 3 |
| BIOL 561 | Genomics | 3 |
| BIOL 562 | Special Topics in Molecular Biology | 1 |
| BIOL 563 | Statistical Genomics | 3 |
| BIOL 564 | Proteomics | 3 |
| BIOL 566 | Bioinformatics | 4 |
| BIOL 568 | Advanced Neuroscience | 3 |
| BIOL 587 | Special Topics in Advanced Molecular Biology | 3-4 |
| BIOL 593 | Molecular Ecology | 3 |
| BIOL 594 | Signal Transduction | 3 |
| BIOL 598 | Selected Techniques in Molecular Biology | 1.5 |
| Non-Departmental Approved Electives | | |
| 0-9 credits may be completed from the following: | | |
| CHEM 570 | Advanced Biochemistry | 3 |
| CHEM 575 | Enzyme Kinetics and Mechanisms | 3 |
| CHEM 577 | Nucleic Acid Biochemistry | 3 |
| CHEM 578 | Biochemistry Laboratory Techniques | 3 |
| CHEM 579 | Biomolecular Assay Development | 3 |
| CHEM 582 | Biochemical Pharmacology | 3 |