# Major Requirements (71 cr)

**Offered:** A - All except Winter, F - Fall, S - Spring, Su - Summer

**Prerequisite:** (0-7 cr)
- if required by placement assessment
  - CHEM106 Principles of Chemistry (A)
  - MATH111 Precalculus (A)

**Bio Major Requirements (23 cr)**
- BIOL112 Principles of Bio I (A)
- BIOL113 Principles of Bio II (A)
- BIOL213 Intro to Ecology (A)
- BIOL230 Cell and Molecular Biology (A)
- BIOL380 Genetics (A)
- BIOL417 Evolutionary Biology (A W)

**Collaterals in Chemistry (16 cr)**
- CHEM 120 General Chem I (A)
- CHEM 121 General Chem II (S Su)
- CHEM 230 Organic Chem I (F Su)
- CHEN 231 Organic Chem II (S Su)
- CHEM 232 Experimental Organic Chem I (F Su)

**Collaterals in Math (8 cr)**
- STAT230+231 Statistics (A)
- MATH 116 Calculus A (A)
  - **OR**
  - MATH122 Calculus I (A)
  - MATH221 Calculus II (A)

**Collaterals in Physics (8 cr)**
- PHYS193 College Physics I (F Su)
- PHYS194 College Physics II (S Su)
  - **OR**
  - PHYS191 University Physics I (F Su)
  - PHYS192 University Physics II (S Su)

**Major Electives (16 cr)**
- Select one from each (see page 2 for elective details)
  - Elective in Ecology
  - Elective in Cell & Molecular
  - Elective in Organisinal
  - Add 1 4 credit Bio elective
  - Add 1 3 credit Bio elective

**Total Credits: 71** (excluding prerequisites)

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# Initial Placement Options

**Math**
- 1. MATH 111 Precalculus
- 2. MATH 122 Calculus I

**Chemistry**
- 1. CHEM 106 Principles of Chemistry
- 2. CHEM 121 General Chemistry I

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# 7 Tips to Achieve Success in BIOLOGY

1. Take 2 or 3 major or collateral courses each semester -- no more, no less -- and do not put off collaterals in Chemistry in particular, as the sequence takes time.
2. Fill out schedule to 15 credits with general education courses. Gen ed courses don’t need to be taken all in the first semester.
3. If you are averaging a C or below in a required course, seek help.
4. If you need to repeat a course, do not despair: do so immediately, and seek supplemental support.
5. Use summer & winter to catch-up or push ahead.
6. Plan around when courses are offered: see list on page 2 and consult with departments for elective schedule.
7. See your adviser regularly. Contact the CSAM Student Success Center at csamssc@montclair.edu; 973-655-3329.
# Figuring out Biology Electives (5 total)

1. Select one in Ecology (E)
2. Select one in Cell and Molecular Biology (C)
3. Select one in Organismal (O)
4. Select two more -- one that is a 4 credit lab course, and one that is a 3 credit course
5. Category A only counts toward the “additional electives” requirement (see page 1)
6. No double-dipping -- an individual course may only be applied to meet one elective requirement

Tip: Get started early, courses on this page are ordered by prerequisite to help you see when a course will become available to you

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Category</th>
<th>Course</th>
<th>Prereqs</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQUA351: Aquatic Biological Processes</td>
<td>BIOL113, CHEM120, CHEM121</td>
<td>E</td>
<td>BIOL497: Genomics</td>
<td>BIOL230, BIOL380</td>
<td>C</td>
</tr>
<tr>
<td>BIOL484: Research Comm 1: Ecology</td>
<td>BIOL112, BIOL213</td>
<td>E</td>
<td>BIOL475: Medical Genetics</td>
<td>BIOL230, BIOL380, CHEM230</td>
<td>C</td>
</tr>
<tr>
<td>BIOL300: Environmental Biology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL467: Molecular Biology</td>
<td>BIOL230, BIOL380, CHEM230</td>
<td>C</td>
</tr>
<tr>
<td>BIOL319: Genes, Brains, and Behavior</td>
<td>BIOL112 and BIOL230</td>
<td>C, O</td>
<td>BIOL468: Neurobiology</td>
<td>BIOL230, BIOL380</td>
<td>C, O</td>
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<tr>
<td>BIOL320: Social Neurobiology</td>
<td>BIOL230</td>
<td>O</td>
<td>BIOL350: Microbiology</td>
<td>BIOL230, CHEM120</td>
<td>C</td>
</tr>
<tr>
<td>BIOL330: Intro to Animal Behavior</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL450: Med Microbiol</td>
<td>BIOL350</td>
<td>O</td>
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<tr>
<td>BIOL370: Principles of Ecology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL405: Cell Culture</td>
<td>BIOL350, BIOL380</td>
<td>O</td>
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<tr>
<td>BIOL429: Herpetology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL458: Microbial Genetics</td>
<td>BIOL230, BIOL350</td>
<td>C</td>
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<tr>
<td>BIOL430: Ornithology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL434: Molecular Biology</td>
<td>BIOL230, BIOL350, CHEM370</td>
<td>C</td>
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<tr>
<td>BIOL431: Entomology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL406: Scanning Electron Microscopy</td>
<td>BIOL380</td>
<td>A</td>
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<tr>
<td>BIOL432: Medical Entomology</td>
<td>BIOL213</td>
<td>O</td>
<td>BIOL409: Externship in Biological Research</td>
<td>BIOL380</td>
<td>A</td>
</tr>
<tr>
<td>BIOL436: Phylogenetic Zoology</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL411: Introduction to Transmission Electron Microscopy</td>
<td>BIOL380</td>
<td>A</td>
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<tr>
<td>BIOL460: Biological Oceanography</td>
<td>BIOL213</td>
<td>E</td>
<td>BIOL415: Population Genetics</td>
<td>BIOL380</td>
<td>C, E</td>
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<tr>
<td>BIOL418: Biology Independent Research</td>
<td>BIOL213, BIOL230</td>
<td>A</td>
<td>BIOL481: Research Community II: Organism Biology</td>
<td>BIOL380</td>
<td>C</td>
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<tr>
<td>BIOL419: Biology of Animal Parasites</td>
<td>BIOL213, BIOL230</td>
<td>O</td>
<td>BIOL482: Research Community II: Molecular Biology</td>
<td>BIOL380</td>
<td>C</td>
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<tr>
<td>BIOL441: Comparative Anatomy of Vertebrates</td>
<td>BIOL213, BIOL230</td>
<td>O</td>
<td>BIOL483: Research Community II: Molecular Biology</td>
<td>BIOL380</td>
<td>C</td>
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<tr>
<td>BIOL445: Selected Topics in Ecology</td>
<td>BIOL213, BIOL380</td>
<td>O</td>
<td>BIOL492: Senior Colloquium</td>
<td>BIOL380</td>
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<tr>
<td>BIOL451: Comparative Animal Physiology</td>
<td>BIOL213, BIOL380</td>
<td>E, O</td>
<td>BIOL410: Toxicology</td>
<td>BIOL380, CHEM230</td>
<td>C, O</td>
</tr>
<tr>
<td>BIOL480: Research Community I: Organism Biology</td>
<td>BIOL213, BIOL230</td>
<td>O</td>
<td>BIOL442: Human Physiol</td>
<td>BIOL380, CHEM230</td>
<td>O</td>
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<tr>
<td>BIOL486: Selected Topics in Biology</td>
<td>BIOL213, BIOL230</td>
<td>A</td>
<td>BIOL444: Cell Physiology</td>
<td>BIOL380, CHEM230</td>
<td>C</td>
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<tr>
<td>BIOL489: Selected Topics in Organism Biology</td>
<td>BIOL213, BIOL230</td>
<td>O</td>
<td>BIOL445: Immunology</td>
<td>BIOL380, CHEM230</td>
<td>C, O</td>
</tr>
<tr>
<td>BIOL440: Gross Mammalian Anatomy</td>
<td>BIOL230</td>
<td>O</td>
<td>BIOL487: Statistical Genomics</td>
<td>BIOL380, STAT401, STAT440</td>
<td>C</td>
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<tr>
<td>BIOL448: Neurobiology</td>
<td>BIOL230, BIOL380</td>
<td>C, O</td>
<td>BIOL488: Research Community II: Organism Biology</td>
<td>BIOL380</td>
<td>O</td>
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<tr>
<td>BIOL483: Research Community II: Molecular Biology</td>
<td>BIOL482</td>
<td>C</td>
<td>BIOL485: Research Community II: Ecology</td>
<td>BIOL484</td>
<td>E</td>
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<tr>
<td>CHEM370: Biochemistry I</td>
<td>CHEM231</td>
<td>A</td>
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</tbody>
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**General Education (35 cr)**

*Courses in red should be taken as early as possible*

- A. GNED199
- C1. WRIT105 (3)
- C2. WRIT106 (3)
- C3. CMST 101 (3)
- D. Fine & Performing Arts (3)
- F1. Great Works & their Influences (3)
- F2. Philosophical & Religious Perspectives (3)
- H. Computer Science (3)
- J. Physical Educaiton (1)
- K1 American & European History (3)
- K2. Global Cultural Perspectives (3)
- K3. Social Science Perspectives (3)
- L. Interdisciplinary Studies (3)

**University Requirements (3-9 cr)**

- World Languages (3-6) determined by placement test
- World Cultures (0-3)*

* some World Cultures courses fulfill other Gen Ed Requirements, especially Global Cultural Perspectives.