# MOLECULAR BIOLOGY (M.S.)

## Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BIOL 547</td>
<td>Molecular Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 548</td>
<td>Molecular Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 556</td>
<td>Molecular Biology of Proteins</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 592</td>
<td>Graduate Colloquium</td>
<td>1</td>
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### Core Courses

- **Research in Biological Literature**
  - BIOL 597  Research in Biological Literature  1

### Electives and Culminating Activity

#### Concentration/Specialization Courses

Select 14 credits (if completing a thesis) - 17 credits (if completing BIOL 599 or a Lab course) from the following:

- **Biology Electives**
  - BIOL 505  Experimental Cell Culture
  - BIOL 512  Topics in Modern Genetics
  - BIOL 513  Instrumentation and Techniques for Biological Science
  - BIOL 515  Population Genetics
  - BIOL 520  Plant Physiology
  - BIOL 533  Advanced Cell Biology
  - BIOL 540  Mammalian Physiology
  - BIOL 549  Topics in Developmental Biology
  - BIOL 550  Topics in Microbiology
  - BIOL 551  Intermediary Metabolism I
  - BIOL 552  Biology of Lipids
  - BIOL 555  Medical Genetics
  - BIOL 557  Virology
  - BIOL 558  Microbial Genetics
  - BIOL 560  Molecular Genetics
  - BIOL 561  Genomics
  - BIOL 562  Short Topics in Molecular Biology
  - BIOL 563  Statistical Genomics
  - BIOL 564  Proteomics
  - BIOL 565  Advanced Plant Molecular Genetics
  - BIOL 566  Bioinformatics
  - BIOL 568  Advanced Neuroscience
  - BIOL 587  Selected Advanced Topics in Molecular Biology
  - BIOL 593  Molecular Ecology
  - BIOL 594  Signal Transduction
  - BIOL 598  Selected Techniques in Molecular Biology

#### Non-Departmental Approved Electives

0-9 credits may be completed from the following:

- CHEM 570  Advanced Biochemistry
- CHEM 575  Enzyme Kinetics and Mechanisms
- CHEM 577  Nucleic Acid Biochemistry
- CHEM 578  Biochemistry Laboratory Techniques
- CHEM 579  Biomolecular Assay Development
- CHEM 582  Biochemical Pharmacology

### Culminating Activity

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