MASTER OF SCIENCE IN MOLECULAR BIOCHEMISTRY AND BIOPHYSICS

32 credit hours
Comprehensive examination
Option 1: Thesis
Option 2: Library or laboratory research project

Curriculum
A master’s student must complete 32 credit hours of approved graduate work, including a core of 20 credit hours; one credit hour of BIOL 595; five to six credit hours of approved electives; and six credit hours of research toward the thesis (BIOL 591), or BIOL 581 and one additional elective, or BIOL 522 and BIOL 523.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 501</td>
<td>Graduate Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 504</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 512</td>
<td>Advanced Biochemistry</td>
<td>3</td>
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<tr>
<td>or PHYS 410</td>
<td>Molecular Biophysics</td>
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<tr>
<td>BIOL 515</td>
<td>Molecular Biology</td>
<td>3</td>
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<tr>
<td>BIOL 533</td>
<td>Advanced Graduate Laboratory Techniques</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 544</td>
<td>Molecular Biology of Cells</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 555</td>
<td>Macromolecular Structure</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 595</td>
<td>Biology Colloquium</td>
<td>1</td>
</tr>
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Research Course Requirements

Select one of the following options: 6

Option 1
- BIOL 581 Capstone 3
- Select one additional elective 3

Option 2
- BIOL 522 & BIOL 523 Research Techniques in the Biological Sciences I and Research Techniques in Biological Sciences II 6

Option 3
- BIOL 591 Research and Thesis M.S. 6

Elective Courses

Select five to six credit hours from the following: 5-6

- Any 500-level biology course
- BIOL 410 Medical Microbiology 3
- BIOL 426 Concepts of Cancer Biology 3
- BIOL 430 Human Physiology 3
- BIOL 440 Neurobiology 3
- BIOL 597 Special Problems 1 1-3

Total Credit Hours 32-33

1 Student may be approved for special problems as appropriate.

The elective is chosen in consultation with an academic adviser. Research for the dissertation must be carried out under the direct supervision of a participating faculty member; the faculty research adviser also acts as the candidate’s academic adviser.

Thesis Option
The thesis option is designed for individuals planning careers as experimental biologists, including those who may wish to pursue a Ph.D. This option is available on a competitive basis. Students choosing the thesis option must complete six credit hours of thesis research (BIOL 591, CHEM 591, or PHYS 591). Students must also prepare a written thesis based on laboratory research.
Non-Thesis Option
The non-thesis option is intended as a degree to meet the needs of teachers, science administrators, policy makers in the life sciences, patent attorneys, and others. Students who elect the non-thesis option must complete a library research project in BIOL 581 or a laboratory-based research project in BIOL 522 plus BIOL 523.