Biology MS, Cell and Molecular Biology Emphasis

This Master of Science in Biology with the Profession Science in Cellular and Molecular Biology emphasis requires a total of 32 credit hours, of which at least half must be at the 5000-level or above. Students will take 21 credit hours in Biology, 9 hours in business courses, and 2 credit hours of internship/practicum. Professional Science students: 1) must take 2 seminars (4 credit hours total) of BIOL 6889, 2) are limited to a maximum of 2 credit hours of Topics in Cellular and Molecular Biology (BIOL 5069) and 3) cannot count any hours of Graduate Research (BIOL 6905) as part of the 32 credit hour total.

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 6889</td>
<td>Graduate Seminar (must be taken twice)</td>
<td>4</td>
</tr>
<tr>
<td>Choose three of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 6602</td>
<td>Advanced Molecular Biology</td>
<td></td>
</tr>
<tr>
<td>BIOL 6612</td>
<td>Advanced Molecular Genetics of Bacteria</td>
<td></td>
</tr>
<tr>
<td>BIOL 6615</td>
<td>Advanced Biotechnology Laboratory II</td>
<td></td>
</tr>
<tr>
<td>BIOL 6622</td>
<td>Advanced Cellular Basis of Disease</td>
<td></td>
</tr>
<tr>
<td>BIOL 6632</td>
<td>Advanced Nucleic Acid Structure and Function</td>
<td></td>
</tr>
<tr>
<td>BIOL 6642</td>
<td>Advanced Plant Biology and Biotechnology</td>
<td></td>
</tr>
</tbody>
</table>

### Elective Courses in Biology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4713</td>
<td>Techniques in Biochemistry</td>
</tr>
<tr>
<td>BIOL 4842</td>
<td>Immunobiology</td>
</tr>
<tr>
<td>BIOL 5069</td>
<td>Topics In Cellular And Molecular Biology</td>
</tr>
<tr>
<td>BIOL 6442</td>
<td>Advanced Developmental Biology</td>
</tr>
<tr>
<td>BIOL 6550</td>
<td>Advanced Bacterial Pathogenesis</td>
</tr>
<tr>
<td>BIOL 6602</td>
<td>Advanced Molecular Biology</td>
</tr>
<tr>
<td>BIOL 6612</td>
<td>Advanced Molecular Genetics of Bacteria</td>
</tr>
<tr>
<td>BIOL 6622</td>
<td>Advanced Cellular Basis of Disease</td>
</tr>
<tr>
<td>BIOL 6632</td>
<td>Advanced Nucleic Acid Structure and Function</td>
</tr>
<tr>
<td>BIOL 6642</td>
<td>Advanced Plant Biology and Biotechnology</td>
</tr>
<tr>
<td>BIOL 6652</td>
<td>Advanced Virology</td>
</tr>
<tr>
<td>BIOL 6920</td>
<td>Advanced Topics in Biology (when relevant)</td>
</tr>
</tbody>
</table>

### Required Internship or Practicum

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 5798</td>
<td>Practicum in Science in Business</td>
</tr>
<tr>
<td>or BIOL 5799</td>
<td>Internship in Sciences in Business</td>
</tr>
</tbody>
</table>

### Professional Science Business Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 3623</td>
<td>Industrial and Organizational Psychology</td>
</tr>
<tr>
<td>BUS AD 5000</td>
<td>Economics for Managers</td>
</tr>
</tbody>
</table>

### Total Hours

| Total Hours | 32 |

1 Maximum of 2 credit hours.