## BIOCHEMISTRY AND MOLECULAR BIOLOGY, MS

### Requirements for Students Matriculating in or before Academic Year 2023-2024

Learn more about Graduate College Academic Regulation 7.0 ([http://catalog.okstate.edu/graduate-college/#70](http://catalog.okstate.edu/graduate-college/#70)).

## Thesis Option

### Total Hours: 30

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coursework</strong></td>
<td></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td><strong>Required Core Courses</strong></td>
<td></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td>BIOC 5002</td>
<td>Research Compliance and Biochemistry Graduate Colloquium</td>
<td></td>
</tr>
<tr>
<td>BIOC 5112</td>
<td>Articulation of Research Logic</td>
<td></td>
</tr>
<tr>
<td>BIOC 5120</td>
<td>Biochemistry and Molecular Biology Graduate Research Colloquium</td>
<td>1</td>
</tr>
<tr>
<td>BIOC 5753</td>
<td>Biochemical Principles</td>
<td></td>
</tr>
<tr>
<td>BIOC 5853</td>
<td>Molecular and Integrative Metabolism</td>
<td></td>
</tr>
<tr>
<td>BIOC 5930</td>
<td>Advanced Biochemical Techniques</td>
<td></td>
</tr>
<tr>
<td>BIOC 6110</td>
<td>Seminar</td>
<td></td>
</tr>
<tr>
<td>Plus 2 Advanced (Biochemistry 6000-level courses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOC 6723</td>
<td>Signal Transduction</td>
<td></td>
</tr>
<tr>
<td>BIOC 6733</td>
<td>Functional Genomics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6740</td>
<td>Physical Biochemistry</td>
<td></td>
</tr>
<tr>
<td>BIOC 6753</td>
<td>Epigenetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6753</td>
<td>Nucleic Acids and Protein Synthesis</td>
<td></td>
</tr>
<tr>
<td>BIOC 6773</td>
<td>Protein Structure and Enzyme Function</td>
<td></td>
</tr>
<tr>
<td>BIOC 6783</td>
<td>Biomembranes and Bioenergetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6793</td>
<td>Plant Biochemistry</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOC 5723</td>
<td>Introduction to Bioinformatics</td>
<td></td>
</tr>
<tr>
<td>BIOC 5102</td>
<td>Molecular Genetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 5824</td>
<td>Biochemical Laboratory Methods</td>
<td></td>
</tr>
<tr>
<td>BIOC 5930</td>
<td>Advanced Biochemical Techniques</td>
<td></td>
</tr>
<tr>
<td>BIOC 6820</td>
<td>Selected Topics in Biochemistry</td>
<td></td>
</tr>
<tr>
<td><strong>Other 6000-level BIOC courses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Graduate-level courses approved by the Graduate Coordinator</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other 6000-level BIOC courses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student’s Graduate Committee must approve the written thesis and an oral exam on the context of the thesis must be passed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hours Subtotal

| Hours Subtotal | **24** |
| **Required Research** | | |
| BIOC 5000 | Research | 6 |

### Total Hours

| Total Hours | **30** |

1. Course to be taken 1 time each year prior to year of graduation.

## Non-Thesis Option

### Total Hours: 32

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coursework</strong></td>
<td></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td><strong>Core courses</strong></td>
<td></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>BIOC 5002</td>
<td>Research Compliance and Biochemistry Graduate Colloquium</td>
<td></td>
</tr>
<tr>
<td>BIOC 5112</td>
<td>Articulation of Research Logic</td>
<td></td>
</tr>
<tr>
<td>BIOC 5753</td>
<td>Biochemical Principles</td>
<td></td>
</tr>
<tr>
<td>BIOC 5853</td>
<td>Molecular and Integrative Metabolism</td>
<td></td>
</tr>
<tr>
<td>BIOC 5853</td>
<td>Molecular and Integrative Metabolism</td>
<td></td>
</tr>
<tr>
<td>BIOC 6110</td>
<td>Seminar</td>
<td></td>
</tr>
<tr>
<td>Plus 2 Advanced (Biochemistry 6000-level courses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOC 6723</td>
<td>Signal Transduction</td>
<td></td>
</tr>
<tr>
<td>BIOC 6733</td>
<td>Functional Genomics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6740</td>
<td>Physical Biochemistry</td>
<td></td>
</tr>
<tr>
<td>BIOC 6753</td>
<td>Epigenetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6753</td>
<td>Nucleic Acids and Protein Synthesis</td>
<td></td>
</tr>
<tr>
<td>BIOC 6773</td>
<td>Protein Structure and Enzyme Function</td>
<td></td>
</tr>
<tr>
<td>BIOC 6783</td>
<td>Biomembranes and Bioenergetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 6793</td>
<td>Plant Biochemistry</td>
<td></td>
</tr>
<tr>
<td>BIOC 6820</td>
<td>Selected Topics in Biochemistry</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOC 5723</td>
<td>Introduction to Bioinformatics</td>
<td></td>
</tr>
<tr>
<td>BIOC 5102</td>
<td>Molecular Genetics</td>
<td></td>
</tr>
<tr>
<td>BIOC 5824</td>
<td>Biochemical Laboratory Methods</td>
<td></td>
</tr>
<tr>
<td><strong>Other 6000-level BIOC courses</strong> (Graduate-level courses approved by the Graduate Coordinator)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student’s Graduate Committee must approve the written and oral reports and an oral exam must be passed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hours Subtotal

| Hours Subtotal | **30** |
| **Required Research** | | |
| BIOC 5000 | Research | 2 |

### Total Hours

| Total Hours | **32** |

## Graduate College Master's Program Requirements

Learn more about Graduate College 2023-2024 Master's Degree Program Requirements ([http://catalog.okstate.edu/graduate-college/](http://catalog.okstate.edu/graduate-college/)). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.