CHEMISTRY B.S. - PHARMACOLOGY

Bachelor of Science - Chemistry; Pharmacology Concentration

General Education Requirements
Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements/) of the catalog.

Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Lower-Division Core Courses</strong></td>
<td>53</td>
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<tr>
<td></td>
<td>General Chemistry</td>
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<tr>
<td></td>
<td>Organic Chemistry</td>
<td></td>
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<tr>
<td></td>
<td>Biology</td>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Physics</td>
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<tr>
<td></td>
<td>Mathematics</td>
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<td><strong>Upper-Division Core Courses</strong></td>
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<tr>
<td></td>
<td>Analytical Chemistry</td>
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</tr>
<tr>
<td></td>
<td>Physical Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biochemistry</td>
<td></td>
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<tr>
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<td><strong>Total Hours</strong></td>
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Degree Specific Credits: 93

Required Cumulative GPA: 2.0

Lower-Division Core Courses

General Chemistry

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHMY 141N</td>
<td>College Chemistry I</td>
<td>5</td>
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<tr>
<td>&amp; CHMY 142N</td>
<td>and College Chemistry I Lab</td>
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<tr>
<td>CHMY 143N</td>
<td>College Chemistry II</td>
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<tr>
<td>&amp; CHMY 144N</td>
<td>and College Chemistry II Lab</td>
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Minimum Required Grade: C-

Organic Chemistry

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHMY 221</td>
<td>Organic Chemistry I</td>
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<tr>
<td>CHMY 222</td>
<td>Organic Chemistry I Lab</td>
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<tr>
<td>CHMY 223</td>
<td>Organic Chemistry II</td>
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<td>CHMY 224</td>
<td>Organic Chemistry II Lab</td>
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Minimum Required Grade: C-

Upper-Division Core Courses

Analytical Chemistry

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>CHMY 311</td>
<td>Analytical Chemistry-Quantitative Analysis</td>
<td>4</td>
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<tr>
<td>CHMY 421</td>
<td>Advanced Instrument Analysis</td>
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<td><strong>Total Hours</strong></td>
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Minimum Required Grade: C-

Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOB 160N</td>
<td>Principles of Living Systems</td>
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<td>BIOB 161N</td>
<td>Principles of Living Systems Lab</td>
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<td>BIOB 260</td>
<td>Cellular and Molecular Biology</td>
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<td>BIOB 272</td>
<td>Genetics and Evolution</td>
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Minimum Required Grade: C-

Computer Science

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<th>Hours</th>
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<tr>
<td>CSCI 125</td>
<td>Computation in the Sciences</td>
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Minimum Required Grade: C-

Physics

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<th>Title</th>
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<tr>
<td>PHSX 215N</td>
<td>Fundamentals of Physics with Calculus I</td>
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<tr>
<td>&amp; PHSX 216N</td>
<td>and Physics Laboratory I with Calculus</td>
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<tr>
<td>PHSX 217N</td>
<td>Fundamentals of Physics with Calculus II</td>
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<tr>
<td>&amp; PHSX 218N</td>
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Minimum Required Grade: C-

Mathematics

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<tbody>
<tr>
<td>M 171</td>
<td>Calculus I</td>
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<tr>
<td>M 172</td>
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Minimum Required Grade: C-
### Physical Chemistry

<table>
<thead>
<tr>
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<th>Hours</th>
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<tbody>
<tr>
<td>CHMY 373</td>
<td>Physical Chemistry-Kinetics &amp; Thermodynamics</td>
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**Total Hours**: 4

Minimum Required Grade: C-

### Microbiology

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>BIOM 360</td>
<td>General Microbiology</td>
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<td>BIOM 361</td>
<td>General Microbiology Lab</td>
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**Total Hours**: 5

Minimum Required Grade: C-

### Biochemistry

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<tbody>
<tr>
<td>BCH 480</td>
<td>Advanced Biochemistry I</td>
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<tr>
<td>BCH 482</td>
<td>Advanced Biochemistry II</td>
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<tr>
<td>BCH 486</td>
<td>Biochemistry Research Lab</td>
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**Total Hours**: 9

Minimum Required Grade: C-

### Pharmacology

<table>
<thead>
<tr>
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<th>Hours</th>
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<tbody>
<tr>
<td>PHAR 421</td>
<td>Medicinal Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 422</td>
<td>Medicinal Chemistry II</td>
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<td>PHAR 443</td>
<td>Pharmacology &amp; Toxicology I</td>
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<tr>
<td>PHAR 444</td>
<td>Pharmacology &amp; Toxicology II</td>
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**Total Hours**: 14

Minimum Required Grade: C-

### Advanced College Writing Requirement

**Rule**: To complete the Advanced College Writing Requirement, Biochemistry students may take the following courses or any other stand-alone advanced writing course.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCH 482</td>
<td>Advanced Biochemistry II</td>
<td>3</td>
</tr>
<tr>
<td>BCH 486</td>
<td>Biochemistry Research Lab</td>
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Minimum Required Grade: C-