UNIVERSITY OF NORTH DAKOTA—DEPARTMENT OF CHEMISTRY
Curriculum for the **B.S. with Major in Chemistry (non-ACS Degree)**
**Biochemistry Option**

REQUIRED 125 credits (36 of which must be numbered 300 or above and 60 of which must be from a 4-year institution) including:

I. General Education Requirements (see University GER listing).

II. The Following Curriculum:

Major Requirements - 36 hours of Chemistry including:

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Chem 121, 121L</td>
<td>General Chemistry I &amp; Lab</td>
<td>(4)</td>
</tr>
<tr>
<td>Chem 122, 122L</td>
<td>General Chemistry II &amp; Lab</td>
<td>(4)</td>
</tr>
<tr>
<td>Engl 110</td>
<td>Composition I</td>
<td>(3)</td>
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<tr>
<td>1Engl 125</td>
<td>Technical and Business Writing</td>
<td>(3)</td>
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<tr>
<td>2Math 146</td>
<td>Applied Calculus I</td>
<td>(3)</td>
</tr>
<tr>
<td>3Biol 150, 150L</td>
<td>General Biology I &amp; Lab</td>
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<tr>
<td>Biol 151, 151L</td>
<td>General Biology II &amp; Lab</td>
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<tr>
<td>4Essential Studies Electives</td>
<td>(5)</td>
<td>(2)</td>
</tr>
<tr>
<td>Total Hours</td>
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<tr>
<th>SOPHOMORE YEAR</th>
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<tbody>
<tr>
<td>Chem 333, 333L</td>
<td>Analytical Chemistry &amp; Lab</td>
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<td>Chem 341, 341L</td>
<td>Organic Chemistry I &amp; Lab</td>
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<td>Chem 342, 342L</td>
<td>Organic Chemistry II &amp; Lab</td>
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<tr>
<td>Phys 211, 211L</td>
<td>College Physics I &amp; Lab</td>
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<tr>
<td>Phys 212, 212L</td>
<td>College Physics II &amp; Lab</td>
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<tr>
<td>4Essential Studies Electives</td>
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<td>(6)</td>
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<th>JUNIOR YEAR</th>
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<tbody>
<tr>
<td>Chem 466</td>
<td>Survey of Physical Chemistry</td>
<td>(4)</td>
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<tr>
<td>BMB 301</td>
<td>Biochemistry Lecture</td>
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<tr>
<td>Level II Language</td>
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<td>(4)</td>
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<tr>
<td>4Electives</td>
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<td>(5)</td>
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<tr>
<td>Total Hours</td>
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<table>
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<th>SENIOR YEAR</th>
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<tr>
<td>Chem 467</td>
<td>Survey of Physical Chem Laboratory</td>
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<tr>
<td>BMB 401</td>
<td>Biochemistry of Proteins &amp; Information Flow</td>
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<tr>
<td>BMB 403</td>
<td>Advanced Biochemistry Laboratory</td>
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<td>4Electives</td>
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<tr>
<td>Total Hours</td>
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1-4: Please see footnotes on the reverse side
With permission of the advisor, a student may substitute English 120 if English 125 is not available.

If a student is not ready for Math 146, Math 103 should be taken in the first semester. If a student would like the option to change into the B.S. in Chemistry or the B.S. with Major in Chemistry with emphasis for the Physical Science Option at a later date, be aware that Math 165, 166, and 265 are required. If a student who begins either the B.S. in Chemistry or the B.S. with Major in Chemistry with emphasis for the Physical Science Option wishes to change to the Biochemistry Option, Math 165 will substitute for Math 146.

Biology 150 and 151 can be taken in the sophomore year. They are prerequisite to other required biology courses.

Electives must include 3 credit hours from Cell Biology (Biol 341), Genetics (Biol 315), or Microbiology (MBio 302/L). Other suggested electives are courses in Physics, Mathematics, Biochemistry, Biology, Languages, Computer Science, Chemical Engineering, Business Management, and Speech.