Required Semester Hours: BA: 38 semester hours  
BS: 58 semester hours

Prerequisites and Supporting Courses:

BA: 4 semester hours  
- MATH 1150: Pre-Calculus Mathematics (4) - meets Analytical & Quantitative Reasoning Requirement

BS: 16 semester hours  
- MATH 1510: Calculus I (4) - meets Analytical & Quantitative Reasoning Requirement  
- MATH 1520: Calculus II (4)

Select one of the following options:

option 1:  
- PHEN 1110: College Physics I (4) (offered only during the summer term)  
- PHEN 1120: College Physics II (4) (offered only during the summer term)

option 2:  
- PHEN 1210: Introductory Physics I (4) (offered only during the academic year)  
- PHEN 1220: Introductory Physics II (4) (offered only during the academic year)

Required Core Courses:

BA: 22 semester hours  
- CHEM 1150: General Chemistry I (4) - meets Physical Science Requirement  
- CHEM 1160: General Chemistry II (4)  
- CHEM 2160: Inorganic Chemistry (4) (required for BS only)  
- CHEM 2310: Organic Chemistry I (4)  
- CHEM 2320: Organic Chemistry II (4)  
- CHEM 3250: Physical Chemistry: Thermodynamics and Kinetics (4) (required for BS only)

BS: 34 semester hours  
- CHEM 2410: Analytical Chemistry (4)  
- CHEM 3010: Chemistry Ethics, Skill, and Professional Practices (2) - meets Ethical Reasoning Requirement  
- CHEM 4020: Chemistry Seminar Series (0), must be taken 3 times pass/fail  
- CHEM 3260: Physical Chemistry: Quantum Chemistry and Spectroscopy (4) (required for BS only)

Electives:

BA: 12 semester hours  
- Chemistry courses numbered 2000 and above (4)  
- Chemistry courses numbered 2000 and above (4)  
- Chemistry courses numbered 3000 and above (4)

BS: 8 semester hours  
- Chemistry courses numbered 2000 and above (4)  
- Chemistry courses numbered 3000 and above (4)

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## ACADEMIC PLANNING GUIDE - CHEMISTRY

effective with 2017-2018 Catalog

### CORE CURRICULUM

Starting with the framework of North Park's identity as a Christian, liberal arts institution, our Core Curriculum is intentionally multi-disciplinary and multi-year. It is set up as a progress through three areas: Foundation Courses, Explorations Courses, and Capstone Courses.

[http://www.northpark.edu/Academics/Undergraduate-Studies/Core-Curriculum](http://www.northpark.edu/Academics/Undergraduate-Studies/Core-Curriculum)

<table>
<thead>
<tr>
<th>Foundations</th>
<th>Explorations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing for more in-depth work in both the Core Curriculum and your major</td>
<td>Knowledge in specific disciplines, with strong emphasis on how you can use them in the context of your own life</td>
</tr>
<tr>
<td>Cornerstone Seminar (4sh)</td>
<td>Art and Aesthetics (2sh)</td>
</tr>
<tr>
<td>Biblical Studies (4sh)</td>
<td>Christian Life &amp; Thought (4sh)</td>
</tr>
<tr>
<td>Health and Well-Being (2sh)</td>
<td>Life Science (2sh/lab)</td>
</tr>
<tr>
<td>Analytical &amp; Quantitative Reasoning (4sh)</td>
<td>Physical Science (2sh/lab)</td>
</tr>
<tr>
<td>Global Histories (4sh)</td>
<td>met by CHEM 1150</td>
</tr>
<tr>
<td>Modern Languages (8sh)</td>
<td>Culture and Society (4sh)</td>
</tr>
<tr>
<td>Ethical Reasoning (2sh)</td>
<td>met by CHEM 3010</td>
</tr>
</tbody>
</table>

### Intermediate Level Writing

Two courses in the context of your major that specifically address writing clearly and doing effective research

<table>
<thead>
<tr>
<th>Writing Intensive Course (4sh)</th>
<th>Research Writing Course (4sh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>met by CHEM 3250 (BS only)</td>
</tr>
</tbody>
</table>

### Keystone

Interdisciplinary integration of skills and knowledge applied to contemporary social issues

<table>
<thead>
<tr>
<th>Keystone Seminar (4sh)</th>
</tr>
</thead>
</table>

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