### B.S. in Chemical Engineering from UND and B.A. in Chemistry from Adrian College (AC)

#### FIRST YEAR FALL
- **CHEM 105:** General Chemistry I 3 AC CHEM 121
- **CHEM 117:** General Chemistry I Lab 1 AC CHEM 121L
- Distribution/Skills/Writing 3 AC
- **MATH 115:** Precalculus 4 AC
- **CCC 101:** College Writing and Inquiry 3 AC

#### FIRST YEAR SPRING
- **CHEM 106:** General Chemistry II 3 AC CHEM 122L
- **CHEM 118:** General Chemistry II Lab 1 AC CHEM 122L
- Distribution/Skills/Writing 3 AC
- **MATH 135:** Calculus I 4 AC MATH 165
- **CCC 102:** Public Speaking 3 AC
- **ESAT 100:** Principles of Fitness 2 AC

#### SECOND YEAR FALL
- **CHEM 224:** Organic Chemistry I 3 AC CHEM 341
- **CHEM 226:** Organic Chemistry I Lab 1 AC CHEM 341L
- **MATH 205:** Calculus II 4 AC MATH 266
- **PHYS 205:** General Physics I 3 AC see NOTES
- **PHYS 209:** General Physics I Lab 1 AC see NOTES
- **CHE 102:** Introduction to Chemical Engineering 2 UND

#### SECOND YEAR SPRING
- **CHEM 225:** Organic Chemistry II 3 AC ACS Elective
- **CHEM 227:** Organic Chemistry II Lab 1 AC ACS Elective
- **PHYS 206:** General Physics II 3 AC see NOTES
- **PHYS 210:** General Physics II Lab 1 AC see NOTES
- **MATH 215:** Calculus III 4 AC MATH 265
- **CHE 103:** Computing Tools for Chemical Engineers 3 UND

#### THIRD YEAR FALL
- **CHEM 303:** Analytical Chemistry I 3 AC ACS Elective
- **CHEM 305:** Analytical Chemistry I Lab 1 AC ACS Elective
- **MATH 305:** Differential Equations 3 AC MATH 266
- **CHEM 321:** Physical Chemistry I: Thermodynamics 3 AC CHEM 466 (substitute)
- Distribution/Skills/Writing 3 AC
- **CHE 201:** Chemical Engineering Fundamentals 3 UND

#### THIRD YEAR SPRING
- **CHEM 325:** Physical Chemistry Lab 1 AC CHEM 466 (substitute)
- **CHEM 401:** Seminar 1 AC
- Distribution/Skills/Writing 3 AC
- **CHE 206:** Unit Operations in Chemical Engineering 3 UND
- **CHE 315:** Engineering Statistics and Design of Experiments 3 UND
- Distribution/Skills/Writing 3 AC

#### FOURTH YEAR FALL
- **CHEM 470:** Capstone 2 AC
- **MLC XXX:** Approved Language Skills I 4 AC
- **CHE 301:** Introduction to Transport Phenomena 4 UND
- **CHE 303:** Chemical Engineering Thermodynamics 4 UND

#### FOURTH YEAR SPRING
- **MLC XXX:** Approved Language Skills II 4 AC
- **CHEM 3XX/4XX:** Chemistry B.A. Elective 4 AC Technical Elective
- **CHE 305:** Separations 3 UND
- **CHE 321:** Chemical Engineering Reactor Design 3 UND
### FIFTH YEAR FALL

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Taken</th>
<th>UND Course</th>
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<tbody>
<tr>
<td>PHIL 304: Ethics</td>
<td>3</td>
<td>AC</td>
<td>ENGR 340</td>
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<tr>
<td>CHE 408: Process Dynamics and Control</td>
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<td>CHE 411: Plant Design I: Process Design and Economics</td>
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<tr>
<td>Material Science Elective</td>
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### FIFTH YEAR SPRING

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<tr>
<th>Course</th>
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<th>Taken</th>
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<tbody>
<tr>
<td>Distribution/Skills/Writing</td>
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<td>CHE 413: Plant Design II: Preliminary Process Project Engineering</td>
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<tr>
<td>CHE 416: Chemical Product Design</td>
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<tr>
<td>ENGR 206: Fundamentals of Electrical Engineering</td>
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<td>LEAD 101: Learning Leadership</td>
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### SUMMER LABS (ON UND CAMPUS)

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<tr>
<th>Course</th>
<th>Credits</th>
<th>When to Take</th>
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<tbody>
<tr>
<td>CHE 235: Chemical Engineering Summer Lab I</td>
<td>3</td>
<td>After Fourth Year Spring</td>
</tr>
<tr>
<td>CHE 335: Chemical Engineering Summer Lab II</td>
<td>3</td>
<td>After Fourth Year Spring</td>
</tr>
<tr>
<td>CHE 431: Chemical Engineering Lab IV</td>
<td>3</td>
<td>After Fifth Year Spring</td>
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</table>

Note: CHE 235 and 335 must be approved to take in same summer semester per department.

### SUMMER COURSES (REMOTE)

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
<th>When to Take</th>
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</thead>
<tbody>
<tr>
<td>CHE 414: Plant Design II: Conceptual Process Project Engr</td>
<td>2</td>
<td>After Fifth Year Spring</td>
</tr>
</tbody>
</table>

### NOTES

1. Adrian students are recommended to take Physics 205/209 and 206/210 in order to meet the minimum Physics requirement for the UND Chemical Engineering degree.

The above plan may not reflect the only path to graduation, nor should it be used as the sole advising document. Students are required to complete all requirements as listed in the UND Academic Catalog for graduation purposes and should work with their UND advisor to confirm progress towards completion.