# REQUIREMENTS FOR THE CHEMISTRY MAJOR

**Grade Requirement:** All courses required for the Chemistry major (CH, MATH, PHYS courses) must be graded and passed with a grade of C- or better.

## Core Chemistry Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry</td>
<td>CH 221, 222, 223</td>
<td>CH 224H, 225H, 226H</td>
</tr>
<tr>
<td>General Chemistry Lab</td>
<td>CH 227, 228, 229</td>
<td>CH 237, 238, 239</td>
</tr>
<tr>
<td>Organic Chemistry*</td>
<td>CH 341, 342, 343</td>
<td></td>
</tr>
<tr>
<td>Organic Chemistry Lab</td>
<td>CH 337, 348, 349</td>
<td></td>
</tr>
<tr>
<td>Physical Chemistry</td>
<td>CH 411, 412, 413</td>
<td></td>
</tr>
<tr>
<td>Physical Chemistry Lab</td>
<td>CH 417, 418, 419</td>
<td></td>
</tr>
<tr>
<td>Instrumental Analysis</td>
<td>CH 429</td>
<td></td>
</tr>
</tbody>
</table>

## Math & Physics:

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus</td>
<td>MATH 251, 252, 253</td>
<td></td>
</tr>
<tr>
<td>Differential Equations</td>
<td>MATH 256</td>
<td></td>
</tr>
<tr>
<td>Multivariable Calculus</td>
<td>MATH 281</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>PHYS 201, 202, 203</td>
<td>PHYS 251, 252, 253</td>
</tr>
<tr>
<td>Physics Lab</td>
<td>PHYS 204, 205, 206</td>
<td>PHYS 290 x 3</td>
</tr>
</tbody>
</table>

## Advanced Electives:

- Option 1) Three approved courses at the 400-level in Chemistry, Geology and Physics
- Option 2) One approved course at the 400-level + six credits of research (CH 401)
- Option 3) Nine credits of research (CH 401)

In addition to the courses listed above, the UO General Education Requirements must be satisfied (either by taking sufficient Writing, Multicultural, Arts & Letters, and Social Science classes or completing the R. D. Clark Honors College requirements).

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## Sample Chemistry Major Program

<table>
<thead>
<tr>
<th>First Year</th>
<th>Core Chemistry Courses</th>
<th>Recommended Courses</th>
<th>Related Science Courses</th>
<th>Required University</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Chemistry</td>
<td></td>
<td>Math**</td>
<td>WR 121-122</td>
</tr>
<tr>
<td></td>
<td>General Chemistry Lab</td>
<td></td>
<td></td>
<td>Group satisfying</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>courses from Arts</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>and Social Sciences</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>(15 credits for each</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>group)</td>
</tr>
<tr>
<td>Second Year</td>
<td>Organic Chemistry</td>
<td>Undergraduate</td>
<td>Math**</td>
<td>2 Multicultural</td>
</tr>
<tr>
<td></td>
<td>Organic Chemistry Lab</td>
<td>Research</td>
<td>Physics</td>
<td>Courses</td>
</tr>
<tr>
<td>Third Year</td>
<td>Physical Chemistry</td>
<td>Advanced</td>
<td>Physics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physical Chemistry Lab</td>
<td>Chemistry</td>
<td>Lab</td>
<td></td>
</tr>
<tr>
<td>Fourth Year</td>
<td>Instrumental Analysis</td>
<td>Electives</td>
<td>Science Electives</td>
<td></td>
</tr>
</tbody>
</table>

*CH 331, 335, 336 may be substituted for CH 341, 342, 343

*If your math placement test does not place you in MATH 251, begin with the course you are placed into and take one math course each term until you finish all required math courses.

*Updated May 2022*
Chemistry - B.S. Degree Checklist

General Chemistry

- CH 221 or 224H
- CH 222 or 225H
- CH 223 or 226H
- CH 227 or 237
- CH 228 or 238
- CH 229 or 239
- CH 341
- CH 342
- CH 343
- CH 347
- CH 348
- CH 349

Organic Chemistry

- CH 331, 335, 336 may be substituted for CH 341, 342, 343

Math

- MATH 251
- MATH 252
- MATH 253
- MATH 256
- MATH 281

Physics

- PHYS 201 or 251
- PHYS 202 or 252
- PHYS 203 or 253
- PHYS 204 or 290
- PHYS 205 or 290
- PHYS 206 or 290

Advanced Electives (one of the three options below)

- Nine credits of research (CH 401)
- Six credits of research + one 400-level Chemistry course: CH _________
- Three 400-level Chemistry courses: CH _________, CH _________, CH _________

Physical Chemistry

(note calculus and physics prereqs)

- CH 411
- CH 412
- CH 413
- CH 417
- CH 418
- CH 419

Instrumental Analysis

- CH 429 (prereq CH 417)

University Requirements

Core Ed

- WR 121
- WR 122 or 123
- Multicultural Requirement - two courses
  - Effective Fall 2019: US, GP
  - Pre-Fall 2019 (check two): AC, IP, IC

Areas of Inquiry

- Arts & Letters Group (15 cr. – must include courses in at least two subjects)
- Social Science Group (15 cr. – must include courses in at least two subjects)

- 180 credits
- 62 upper division credits
- 35 UO Residency Requirement (After completing 120 cr., at least 45 cr. must be at the UO)
- 168 ABCDP* credits (ABCDP* = graded or P if the course is taught P/N only)
- 45 ABCD credits at UO (ABCD = graded credits)

1 All courses required for the Chemistry major must be graded and passed with a C- or better
2 CH 331, 335, 336 may be substituted for CH 341, 342, 343