I am a returning Northwestern student that wants to start or continue in General Chemistry in Academic Year 2017-18. What is my next step?

I am a Returning Northwestern Student

I have successfully completed (with a grade of C- or better) at least one NU General Chemistry course

Please consult the information on Page 2 of this document.

I will be taking my first NU General Chemistry course in Fall 2017

I took the AP or IB Exam in high school AND I scored AP 3+ or IB 5+

YES
Please consult the information on Page 3 of this document.

NO
You must take the Chemistry Initial Assessment by July 31.
Please contact Sam Ritchey at chemhelp@northwestern.edu to request access and information.

I am a Class of 2021 Student who intends to take a Chemistry course

You must take the Chemistry Initial Assessment. You will automatically be invited to the Assessment on June 1 and must complete it by July 31. Full details will be provided by email at launch on June 1.

Questions?
Please contact Undergraduate Chemistry Program Coordinator Sam Ritchey at chemhelp@northwestern.edu
Returning Northwestern Students Who Have Completed NU General Chemistry Coursework

If you have successfully completed (C- or better) at least one Northwestern General Chemistry course, you may be eligible to skip the Chemistry Initial Assessment and start in a class other than Chem 110.

The next step will be to contact Dr. Fred Northrup, Director of Undergraduate Studies for Chemistry, at f-northrup@northwestern.edu in order to be placed into the appropriate course(s).

Below we offer general guidelines based on coursework completed to date. Please note that these are merely guidelines and that placement is ultimately determined by Dr. Northrup.

<table>
<thead>
<tr>
<th>You have successfully (C- or better) completed...</th>
<th>Likely Next Course(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 101/121</td>
<td>Fall Chem 151/161</td>
</tr>
<tr>
<td>Chem 121 only</td>
<td>Fall Chem 110 or Chem 151/161</td>
</tr>
<tr>
<td>Chem 101 only</td>
<td>Fall Chem 151/161</td>
</tr>
<tr>
<td>Chem 102/122</td>
<td>Winter Chem 152/162</td>
</tr>
<tr>
<td>Chem 122 only</td>
<td>Fall Chem 151</td>
</tr>
<tr>
<td>Chem 102 only</td>
<td>Fall Chem 161</td>
</tr>
<tr>
<td>Chem 123 only</td>
<td>Winter Chem 152</td>
</tr>
<tr>
<td>Chem 103 only</td>
<td>Winter Chem 162</td>
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</tbody>
</table>
Returning Northwestern Students with AP or IB Exam Credit

If you are taking your first Northwestern General Chemistry course in Fall 2017 and you earned AP 3+ or IB 5+ credit, you are immediately eligible to start in a course other than Chem 110 as noted below:

- **I took the AP chemistry exam or the IB chemistry exam and scored an AP 5 or IB 7.**

  You have the option to start in either Organic Chemistry (Fall CHEM 210-1 or 212-1/232-1)‡ or in Advanced General Chemistry (Fall CHEM 171/181). **Students with AP 5 or IB 7 *MAY NOT* enroll in Chem 110 or Chem 151/161.**

- **I took the AP chemistry exam or the IB chemistry exam and scored an AP 3/4 or IB 5/6.**

  You have the option to start in the Advanced General Chemistry (Fall CHEM 171/181) or in Accelerated General Chemistry (Fall CHEM 151/161). **Students with AP 3/4 or IB 5/6 *MAY NOT* enroll in Chem 110.**

- **Will I earn Northwestern course credit based on my AP or IB exam score?**

  **Yes**—if you start in either Organic Chemistry or *Advanced* General Chemistry.

  If you start in Organic Chemistry (210-1 or 212-1/232-1), you will receive non-grade transcript credits for CHEM 1x0, 1x1, 1x2, and 0.34 credit lab courses 11x and 12x upon successful completion of the first Organic Chemistry course.

  If you start in Advanced General Chemistry (CHEM 171/181), you will receive non-grade transcript credit for CHEM 1x0 upon successful completion of the course.

‡ For more information about the differences between the 210 and 212 sequences, please contact Program Coordinator Sam Ritchey at chemhelp@northwestern.edu.
<table>
<thead>
<tr>
<th>Time</th>
<th>Courses</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
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</tr>
<tr>
<td>9AM</td>
<td>CHEM 151/161 Lab M or T or W</td>
<td>Department Permission By Assessment</td>
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<tr>
<td></td>
<td>CHEM 110 NO LAB</td>
<td></td>
</tr>
<tr>
<td>10AM</td>
<td>CHEM 151/161 Lab M or T or W</td>
<td>Department Permission By Assessment</td>
</tr>
<tr>
<td></td>
<td>CHEM 110 NO LAB</td>
<td></td>
</tr>
<tr>
<td>11AM</td>
<td>CHEM 151/161 Lab M or T or W</td>
<td>Department Permission By Assessment</td>
</tr>
<tr>
<td></td>
<td>CHEM 110 NO LAB</td>
<td></td>
</tr>
<tr>
<td>1PM</td>
<td>CHEM 171/181 Lab Th 2:00-4:20</td>
<td>• AP 3+ or • IB 5+ or • Qualifying Score on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NU Placement Exam*</td>
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<tr>
<td><strong>WINTER</strong></td>
<td></td>
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<tr>
<td>9AM</td>
<td>CHEM 131/141 Lab TBA</td>
<td>C- or better in Chem 110</td>
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<tr>
<td>10AM</td>
<td>CHEM 152/162 Lab TBA</td>
<td>C- or better in Chem 151 and Chem 161</td>
</tr>
<tr>
<td>11AM</td>
<td>CHEM 152/162 Lab TBA</td>
<td>C- or better in Chem 151 and Chem 161</td>
</tr>
<tr>
<td>1PM</td>
<td>CHEM 172/182 Lab TBA</td>
<td>C- or better in Chem 171 and Chem 181</td>
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<tr>
<td><strong>SPRING</strong></td>
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<tr>
<td>9AM</td>
<td>CHEM 132/142 Lab TBA</td>
<td>C- or better in Chem 131 and Chem 141</td>
</tr>
</tbody>
</table>

**LEGEND**

SEQUENCE ORDER

- 110 → 131/141 → 132/142 (3 Qtr Gen Chem)
- 151/161 → 152/162 (2 Qtr Accelerated Gen Chem)
- 171/181 → 172/182 (2 Qtr Advanced Gen Chem)

- All courses meet MTWThF
- All courses have 1x/week PM lab EXCEPT for Chem 110

*The Placement Exam is optional and open to Class of 2021 students only. Please note that the optional Placement Exam is different than the Initial Chemistry Assessment, which is mandatory for all Class of 2021 students and most returning NU students. Please see full details at https://geo.ee/NUplacement*
Overview of General Chemistry Course Sequences

General Chemistry (3 Quarters)
Fall CHEM 110 (continues with Winter CHEM 131/141; Spring CHEM 132/142)
Solution strategies for traditional word problems and their application to basic chemistry quantitative problems: dimensional analysis, chemical equations, stoichiometry, limiting reagents. Fall CHEM 110 does not have an associated laboratory course.

Note: The CHEM 110 course emphasizes problem solving skills and foundational chemistry topics. Many students will have a good background in these areas from a high school chemistry course. Whether a student would benefit from taking the CHEM 110 course will be determined from the online Initial Chemistry Assessment. All class of 2021 students intending to take any chemistry course during first year and most returning Northwestern students wanting to take a general chemistry course are required to complete this Assessment by July 31 so this determination can be made.

Accelerated General Chemistry (2 Quarters)
Fall CHEM 151/161 (continues with Winter CHEM 152/162)
Quantum mechanics, electronic structure, periodic properties of the elements, chemical bonding, thermodynamics, gas laws, intermolecular forces, properties of solids and liquids, special topics in modern chemistry. Must be taken concurrently with the Chem 161-0 laboratory course.

Advanced General Chemistry (2 Quarters)
Fall CHEM 171/181 (continues with Winter CHEM 172/182)
Review of mole problems and stoichiometry; descriptive chemistry, elements, compounds, and inorganic reactions; gas laws; phase equilibria and colligative properties; chemical equilibrium; aqueous equilibria; topics in chemical bonding and molecular structure. Must be taken concurrently with Chem 181-0 laboratory course.