COMPUTER SCIENCE AND CHEMISTRY

For the Degree of Bachelor of Science in Liberal Arts and Sciences

Major in Computer Science (https://cs.illinois.edu/academics/undergraduate/degree-program-options/cs-x-degree-programs/#requirements) and Chemistry (https://chemistry.illinois.edu/computer-science-chemistry-degree-requirements)

Please visit the computer science advisor as well as the Chemical Sciences advising office.

Computer Science email: academic@cs.illinois.edu
Chemistry advising (School of Chemical Sciences advising): scs-advising@illinois.edu

Minimum required major coursework normally equates to 66 hours.

General education: Students must complete the Campus General Education (https://courses.illinois.edu) requirements including the campus general education language requirement.

Twelve hours of 300- and 400-level courses in the major must be taken on this campus.

A Major Plan of Study Form must be completed and submitted to the LAS Student Affairs Office by the beginning of the fifth semester (60-75 hours). Please visit the computer science advisor as well as the Chemical Sciences advising office.

Minimum hours required for graduation: 120 hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CS 100</td>
<td>Freshman Orientation (recommended) ¹</td>
<td>0-1</td>
</tr>
<tr>
<td>CS 125</td>
<td>Intro to Computer Science</td>
<td>4</td>
</tr>
<tr>
<td>CS 126</td>
<td>Software Design Studio</td>
<td>3</td>
</tr>
<tr>
<td>CS 173</td>
<td>Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 225</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CS 233</td>
<td>Computer Architecture</td>
<td>4</td>
</tr>
<tr>
<td>CS 241</td>
<td>System Programming</td>
<td>4</td>
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<tr>
<td></td>
<td>Choose one of the following:</td>
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<tr>
<td>STAT 200</td>
<td>Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STAT 212</td>
<td>Biostatistics</td>
<td></td>
</tr>
<tr>
<td>CS 361</td>
<td>Probability &amp; Statistics for Computer Science</td>
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<tr>
<td>CS 374</td>
<td>Introduction to Algorithms &amp; Models of Computation</td>
<td>4</td>
</tr>
<tr>
<td>CS 421</td>
<td>Programming Languages &amp; Compilers</td>
<td>3</td>
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<tr>
<td></td>
<td>Mathematics (may also fulfill the General Education Quantitative Reasoning I and II requirements)</td>
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<tr>
<td>MATH 221</td>
<td>Calculus I</td>
<td>4-5</td>
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<tr>
<td>or MATH 222</td>
<td>Calculus</td>
<td></td>
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<tr>
<td>MATH 225</td>
<td>Introductory Matrix Theory</td>
<td>2</td>
</tr>
<tr>
<td>MATH 231</td>
<td>Calculus II</td>
<td>3</td>
</tr>
</tbody>
</table>

Required Chemistry Coursework - Minimum of 24 hours

Foundation Courses - 12 hours required

Select one of the following (General or Accelerated Chemistry):

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 102</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 10:</td>
<td>General Chemistry Lab I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 10:</td>
<td>General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 10:</td>
<td>General Chemistry Lab II</td>
<td></td>
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<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 202</td>
<td>Accelerated Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 20:</td>
<td>Accelerated Chemistry Lab I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 20:</td>
<td>Accelerated Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 232</td>
<td>Elementary Organic Chemistry I</td>
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</tr>
<tr>
<td>or CHEM 236</td>
<td>Fundamental Organic Chem I</td>
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Advanced Chemistry Courses - 12 hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 440</td>
<td>Physical Chemistry Principles</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 442</td>
<td>Physical Chemistry I</td>
<td></td>
</tr>
</tbody>
</table>

In consultation with an advisor, choose 8 hours of 300- or 400-level chemistry courses ²

1. CS 100 is an orientation course aimed at first-year students, so students who declare the major after the freshman year are not required to complete it.

2. The following courses may not be used to complete the advanced chemistry hours: CHEM 315, CHEM 397, CHEM 420, CHEM 445, CHEM 447, CHEM 492, CHEM 494, CHEM 496, CHEM 497, and any course in another unit, such as any BIOC or MCB course.