COMPUTER SCIENCE + CHEMISTRY, BSLAS

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Computer Science + Chemistry

Undergraduate Degree Programs in Chemistry

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

• Major in Computer Science & Chemistry, BSLAS (p. 1)
• Major in Chemistry (Sciences and Letters) (http://catalog.illinois.edu/undergraduate/las/chemistry-bslas/#degreerequirementstext)
• Major in Chemistry (Sciences and Letters), Chemistry Teaching Concentration (http://catalog.illinois.edu/undergraduate/las/chemistry-bslas/chemistry-teaching/)

For the Degree of Bachelor of Science in Chemistry

• Major in Chemistry (Specialized Curriculum) (http://catalog.illinois.edu/undergraduate/las/chemistry-bs/ #degreerequirementstext)
• Major in Chemistry (Specialized Curriculum), Environmental Chemistry Concentration (http://catalog.illinois.edu/undergraduate/las/chemistry-bs/ environmental-chemistry/)

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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.

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

Minimum required major and supporting course work: Normally equates to 66 hours. Twelve hours of 300- and 400-level in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

Required Computer Science Coursework

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 100</td>
<td>Computer Science Orientation</td>
<td>1</td>
</tr>
<tr>
<td>CS 124</td>
<td>Introduction to Computer Science I</td>
<td>3</td>
</tr>
<tr>
<td>CS 128</td>
<td>Introduction to Computer Science II</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 222</td>
<td>Software Design Lab</td>
<td>1</td>
</tr>
<tr>
<td>Choose one of the following combinations</td>
<td></td>
<td>8-11</td>
</tr>
</tbody>
</table>

Computer Science:

1. An ability to apply knowledge of computing and mathematics appropriate to the discipline
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

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3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
4. An ability to function effectively on teams to accomplish a common goal
5. An understanding of professional, ethical, legal, security and social issues and responsibilities
6. An ability to communicate effectively with a range of audiences
7. An ability to analyze the local and global impact of computing on individuals, organizations, and society
8. A recognition of the need for and an ability to engage in continuing professional development
9. An ability to use current techniques, skills, and tools necessary for computing practice
10. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices
11. An ability to apply design and development principles in the construction of software systems of varying complexity

Chemistry:

1. A thorough knowledge of the basic principles of chemistry, including atomic and molecular structure, chemical dynamics and the chemical and physical properties of substances.
2. An exposure to the sub-fields of chemistry, including analytical, inorganic, organic and physical chemistry.
3. The ability to read, evaluate, interpret, and present (via oral and written communication) numerical, chemical and general scientific information and literature.
4. The ability to carry out experiments, use appropriate experimental apparatus effectively, and demonstrate proper laboratory safety skills.

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