**MATHEMATICS & COMPUTER SCIENCE, BSLAS**

for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Mathematics & Computer Science

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**computer science degree information:** [https://cs.illinois.edu/academics/undergraduate/degree-program-options/cs-x-degree-programs#requirements](https://cs.illinois.edu/academics/undergraduate/degree-program-options/cs-x-degree-programs#requirements)

**math department website:** [https://math.illinois.edu/academics/undergraduate-program-mathematics](https://math.illinois.edu/academics/undergraduate-program-mathematics)

**department page:** [Mathematics](http://catalog.illinois.edu/undergraduate/las/academic-units/math)

**overview of college admissions & requirements:** [Liberal Arts & Sciences](http://catalog.illinois.edu/las)

**college websites:** [https://las.illinois.edu/](https://las.illinois.edu/) and [https://engineering.illinois.edu](https://engineering.illinois.edu)

**math email:** mathadvising@illinois.edu

**computer science email:** undergrad@cs.illinois.edu (academic@cs.illinois.edu) or

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for the degree of Bachelor of Science in Liberal Arts and Sciences: Major in Mathematics & Computer Science

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**Departmental distinction:** To graduate with distinction requires a specified minimum grade point average in all Computer Science and Mathematics courses listed below. A GPA of 3.25 is required for Distinction, 3.5 for High Distinction, and 3.75 for Highest Distinction. In addition, students must complete at least three semester hours of additional Computer Science or Mathematics courses selected from the following: CS 196, CS 296, CS 397, CS 492, CS 493, CS 499, any CS course numbered 411 or higher, MATH 412, MATH 414, MATH 417, MATH 418, MATH 423, MATH 432, MATH 448, MATH 482, MATH 484, MATH 496.

**NOTE:** A student taking a cross-listed course in this major may designate it as either mathematics or computer science.

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

Minimum required major and supporting course work: Normally equates to 70 hours. Twelve hours of 300- and 400-level in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

**Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 100</td>
<td>Freshman Orientation (recommended)</td>
<td>0-1</td>
</tr>
<tr>
<td>Calculus through MATH 241-Calculus III</td>
<td>11-12</td>
<td></td>
</tr>
<tr>
<td>MATH 347</td>
<td>Fundamental Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 348Fundamental Mathematics-ACP</td>
<td></td>
<td></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>
</tr>
</tbody>
</table>

**400-level mathematics and computer science requirements:** 18

Students must select at least six 400-level mathematics and computer science courses, including one from each of the following groups:

**GROUP I**

- CS 361 Probability & Statistics for Computer Science (recommended)
- MATH 461 Probability Theory
- STAT 400/ MATH 463 Statistics and Probability I

**GROUP II**

- MATH 412 Graph Theory
- MATH 417 Intro to Abstract Algebra

**GROUP III**

- MATH 441 Differential Equations
- MATH 446 Applied Complex Variables
- MATH 484 Nonlinear Programming

**GROUP IV**

- MATH 444 Elementary Real Analysis
- MATH 447 Real Variables

**GROUP V**

- MATH 414 Mathematical Logic
- CS/MATH 473 Algorithms
- CS/MATH 475 Formal Models of Computation
- CS 476 Program Verification
- CS 477 Formal Software Devel Methods
- CS 481 Advanced Topics in Stochastic Processes & Applications
- CS 482 Simulation

Information listed in this catalog is current as of 06/2019