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

Mathematics & Computer Science, BSLAS

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

Math website: Mathematics & Computer Science (https://math.illinois.edu/academics/undergraduate-program-mathematics/)
Computer science website: Mathematics & Computer Science (https://cs.illinois.edu/academics/undergraduate/degree-program-options/bs-mathematics-computer-science/)
Department website: Mathematics (https://math.illinois.edu/)
Department faculty: Mathematics Faculty (https://math.illinois.edu/directory/faculty-by-type/)
Overview of college admissions & requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/academic-units/)
College websites: https://las.illinois.edu/ and https://engineering.illinois.edu
Math email: mathadvising@illinois.edu
Computer science email: undergrad@cs.illinois.edu (academic@cs.illinois.edu)

Undergraduate programs in Mathematics
Actuarial Science, BSLAS (http://catalog.illinois.edu/undergraduate/las/actuarial-science-bslas/)
Mathematics, BSLAS (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/#text)
Mathematics & Computer Science, BSLAS (p. 1)

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

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/) 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></td>
<td>Calculus through MATH 241-Calculus III</td>
<td>11-12</td>
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</tbody>
</table>

MATH 347  Fundamental Mathematics
or MATH 348  Fundamental Mathematics-ACP
CS 125  Intro to Computer Science
CS 126  Software Design Studio
CS 173  Discrete Structures
CS 225  Data Structures
CS 233  Computer Architecture
CS 241  System Programming
CS/MATH 357  Numerical Methods I
CS 374  Introduction to Algorithms & Models of Computation
CS 421  Programming Languages & Compilers
CS 457  Numerical Methods II
MATH 415  Applied Linear Algebra
or MATH 41 A 41 Linear Algebra

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 Development Methods
CS 481  Advanced Topics in Stochastic Processes & Applications
CS 482  Simulation

Information listed in this catalog is current as of 12/2020