MATHEMATICS AND COMPUTER SCIENCE

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

Major in Sciences and Letters Curriculum

E-mail: academic@cs.illinois.edu or mathadvising@illinois.edu

Degree title: Bachelor of Science in Liberal Arts and Sciences

Minimum required major and supporting course work normally equates to 68-70 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.

Minimum hours required for graduation: 120 hours

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.

Requirements

Calculus through MATH 241-Calculus III
MATH 347 Fundamental Mathematics
or MATH 348 Fundamental Mathematics-ACP
CS 125 Intro to Computer Science
CS 173 Discrete Structures
CS 225 Data Structures
CS 233 Computer Architecture
CS 241 System Programming
CS 242 Programming Studio
CS/MATH 357 Numerical Methods I
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CS 373
CS 457 Numerical Methods II
MATH 415 Applied Linear Algebra
or MATH 416 Abstract Linear Algebra

400-level mathematics and computer science requirements: 21-22

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

GROUP I
MATH 461 Probability Theory

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 Fundamental Algorithms

GROUP VI
CS 421 Progrmg Languages & Compilers
CS 423 Operating Systems Design