Statistics & Computer Science, BSLAS

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

Statistics website: Statistics & Computer Science (https://stat.illinois.edu/academics/undergraduate-program/degree-programs/)

Computer science degree information: Statistics & Computer Science (https://cs.illinois.edu/academics/undergraduate/degree-program-options/bs-statistics-computer-science/)

Advising: Statistics advising (https://stat.illinois.edu/academics/advising/)

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

Statistics email: stat-office@illinois.edu

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

This major is sponsored jointly by the Departments of Statistics and Computer Science. The Statistics and Computer Science major is designed for students who would like a strong foundation in computer science, coupled with significant advanced coursework in statistics. The major prepares students for professional or graduate work in statistics and computer science, and for applications of computing in which knowledge of statistics is particularly important, such as data mining and machine learning.

Undergraduate degree programs in Statistics

Statistics, BSLAS (http://catalog.illinois.edu/undergraduate/las/statistics-bslas/#degreerequirementstext)

Statistics & Computer Sciences, BSLAS (p. 1)

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Departmental distinction: To graduate with distinction requires a specified minimum grade point average in all Computer Science, Statistics, 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.

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 68-69 hours. At least 12 hours of 300- and 400-level courses must be taken on this campus.

Minimum hours required for graduation: 120 hours

<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>
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<tr>
<td></td>
<td>Calculus through MATH 241 - Calculus III</td>
<td>11-12</td>
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<tr>
<td>MATH 415</td>
<td>Applied Linear Algebra</td>
<td>3</td>
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</tbody>
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Required Computer Science Foundaton: 32
- CS 125 Intro to Computer Science
- CS 173 Discrete Structures
- CS 126 Software Design Studio
- CS 225 Data Structures
- CS 233 Computer Architecture
- CS 241 System Programming
- CS 357 Numerical Methods I
- CS 374 Introduction to Algorithms & Models of Computation
- CS 421 Programming Languages & Compilers

Required Probability and Statistics Foundation: 10
- STAT 400 Statistics and Probability I
- STAT 410 Statistics and Probability II
- STAT 428 Statistical Computing

At least four other statistics, computer science, or mathematics courses, with at least one chosen from each of the following groups: 12

Group I: Statistical Methods
- STAT 200 Statistical Analysis
- STAT 212 Biostatistics
- CS 361 Probability & Statistics for Computer Science

Group II: Mathematical Analysis and Modeling
- MATH 347 Fundamental Mathematics
- MATH 441 Differential Equations
- MATH 444 Elementary Real Analysis
- MATH 447 Real Variables

Group III: Computational Application Areas
- STAT 385 Statistics Programming Methods
- CS 410 Text Information Systems
- CS 411 Database Systems
- CS 412 Introduction to Data Mining
- CS 446 Machine Learning
- CS 481 Advanced Topics in Stochastic Processes & Applications
- CS 482 Simulation

Group IV: Statistical Analysis and Modeling
- STAT 420 Methods of Applied Statistics
- STAT 425 Statistical Modeling I
- STAT 426 Statistical Modeling II
- STAT 448 Advanced Data Analysis

1 Students should take a course from Group I before taking STAT 400.