STATISTICS & COMPUTER SCIENCE, BSLAS

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

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 requirements including the campus general education language requirement.

Minimum required major and supporting course work: Normally equates to 68-72 hours. At least 12 hours of 300- and 400-level courses must be taken on this campus.

Minimum hours required for graduation: 120 hours

Code	Title	Hours
CS 100	Computer Science Orientation (recommended)	1
Mathematical Foundation		
Calculus through MATH 241: Calculus III		11-12
MATH 257	Linear Algebra with Computational Applications	3
or MATH 415	Applied Linear Algebra	
Computer Science Foundation		
CS 124	Introduction to Computer Science I	3
CS 128	Introduction to Computer Science II	3
CS 173	Discrete Structures	3
CS 222	Software Design Lab	1
CS 225	Data Structures	4
Choose one of the following combinations:		8-11
CS 233 & CS 341	Computer Architecture and System Programming	
OR		
CS 340	Introduction to Computer Systems	

& two CS courses at the 400 level above CS 403, excluding CS 421 and CS 491. These two courses must be distinct from all other courses used to fulfill program requirements or options.		
CS 357	Numerical Methods I	3
CS 374	Introduction to Algorithms & Models of Computation	4
CS 421	Programming Languages & Compilers	3
Probability and Statistics Foundation		
Choose one of the following:		3-4
STAT 107	Data Science Discovery	
STAT 200	Statistical Analysis	
STAT 212	Biostatistics	
STAT 400	Statistics and Probability I	4
STAT 410	Statistics and Probability II	3 or 4
STAT 425	Statistical Modeling I	3 or 4
STAT 426	Statistical Modeling II	3 or 4
Statistical Application Electives -Choose one of the following:		**3**
STAT 428	Statistical Computing	
STAT 431	Applied Bayesian Analysis	
STAT 432	Basics of Statistical Learning	
STAT 434	Survival Analysis	
STAT 448	Advanced Data Analysis	
Computational Application Elective - Choose one of the following:		**3**
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	
Total Hours		**68-72**

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a fourth level of a language other than English. See the corresponding section on the Degree and General Education Requirements page (http://catalog.illinois.edu/general-information/degree-general-education-requirements/*).*

First Year

First Semester	Hours	Second Semester	Hours
Free elective course	1	CS 128	3
CS 100	1	CS 173	3
CS 124	3	MATH 220 (or MATH 221)	4
Composition I or General Education course	4	General Education course or Composition I	3
General Education course	3	General Education course	3
	12		**16**

Second Year

First Semester	Hours	Second Semester	Hours
CS 222	1	CS 233 (or CS 340)	3
CS 225	4	MATH 241	4
MATH 231	3	STAT 107 (or STAT 200 or STAT 212)	3
MATH 257 (or MATH 415)	3	General Education Course	3
Language Other Than English (3rd level)	4	Language Other Than English (4th level)	4
	15		**17**

Third Year

First Semester	Hours	Second Semester	Hours
STAT 400	4	STAT 410	3
CS 341 (or CS 400-level course)	4	Free elective course or CS 400-level course	3
CS 357	3	CS 374	4
General Education Course	3	General Education Course	3
		General Education Course	3
	14		**16**

Fourth Year

First Semester	Hours	Second Semester	Hours
CS 421	3	Computational Application Elective course	3
STAT 425	3	STAT 426	3
Statistical Application Elective course	3	General Education course	3
General Education course	3	General Education course	3
Free elective course	3	Free elective course	3
	15		**15**

Total Hours 120

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

Statistics advising information (https://stat.illinois.edu/academics/advising/)
Computer Science advising information (https://cs.illinois.edu/academics/undergraduate/undergraduate-advising/)

Statistics email (stat-advising@illinois.edu)
Computer Science email (undergrad@cs.illinois.edu)

Overview of College Admissions & Requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/academic-units/)
College of Liberal Arts and Sciences website (https://las.illinois.edu/)
Grainger College of Engineering website (https://grainger.illinois.edu)