

STATISTICS, BSLAS

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

Statistics is the science of modeling, summarizing, and analyzing data, and of using mathematics and computing tools to make predictions and decisions in the face of uncertainty. Statistical ideas are applicable in any area involving quantitative measurement and in almost every area of scholarly pursuit. The major, administered by the Department of Statistics, is designed to provide students with an understanding of the concepts of statistical inference and a familiarity with the methods of applied statistical analysis. A major in statistics will prepare students for a career in business, industry, or government, and for further graduate study in statistics or in a related area.

Undergraduate degree programs in Statistics

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Statistics & Computer Sciences, BSLAS (http://catalog.illinois.edu/undergraduate/eng_las/statistics-computer-science-bslas/)

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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 70-72 hours. Twelve hours of 300- and 400-level in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

Code	Title	Hours
Introductory and Preparatory Coursework (17-19 hours)		
Calculus through MATH 241 - Calculus III		11-12
Select one from the following:		3-4
STAT 107	Data Science Discovery	
STAT 200	Statistical Analysis	
STAT 212	Biostatistics	
Select one from the following:		3
MATH 257	Linear Algebra with Computational Applications	
MATH 415	Applied Linear Algebra	
MATH 416	Abstract Linear Algebra	
Statistical Core Coursework (13 hours)		
STAT 400	Statistics and Probability I	4
STAT 410	Statistics and Probability II	3
STAT 425	Statistical Modeling I	3
STAT 426	Statistical Modeling II	3
Advanced Statistics Electives (12 hours)		
Select four of the following:		12
STAT 385	Statistics Programming Methods	
STAT 424	Design of Experiments	
STAT 427	Statistical Consulting	
STAT 428	Statistical Computing	
STAT 429	Time Series Analysis	
STAT 430	Topics in Applied Statistics	
STAT 431	Applied Bayesian Analysis	
STAT 432	Basics of Statistical Learning	
STAT 433	Stochastic Processes	
STAT 434	Survival Analysis	
STAT 440	Statistical Data Management	
STAT 443	Professional Statistics	
STAT 447	Data Science Programming Methods	
STAT 448	Advanced Data Analysis	
STAT 480	Big Data Analytics	
MATH 444	Elementary Real Analysis	
or MATH 447	Real Variables	
Total Hours		42-44

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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 STAT 107 or STAT 200 or STAT 212	3
MATH 220 or 221		4 MATH 231	3
Language Other than English (3rd level)		4 Language Other than English (4th level)	4
Composition I or General Education course		4 General Education course or Composition I	3
Free elective course		3 Free elective course	3
		16	16

Second Year

First Semester	Hours	Second Semester	Hours
MATH 241		4 MATH 257 or MATH 415 or MATH 416	3
General Education course		3 General Education course	3
General Education course		3 General Education course	3
General Education course		3 General Education course	3
Free elective course		3 Free elective course	3
		16	15

Third Year

First Semester	Hours	Second Semester	Hours
STAT 400		4 STAT 410	3
Advanced Statistics Elective course		3 Advanced Statistics Elective course	3
General Education course		3 General Education course	3
General Education course		3 Free elective course	3
Free elective course		3 Free elective course	3
		16	15

Fourth Year

First Semester	Hours	Second Semester	Hours
STAT 425		3 STAT 426	3
Advanced Statistics Elective course		3 Advanced Statistics Elective course	3
Free elective course		3 Free elective course	3
Free elective course		3 Free elective course	3

Free elective course	2
	14
	12

Total Hours 120

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Statistics students will:

1. Be able to apply mathematical and statistical reasoning to draw valid conclusions from data;
2. Communicate the results of a statistical analysis effectively in writing, through visualizations, and orally;
3. Be competent in the use of statistical software, in data management, and in writing statistical code;
4. Be adept in the use of modern methods of statistical computing, statistical learning, and data science;
5. Work effectively as part of a team.

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Department of Statistics website (<https://stat.illinois.edu/>)
 Statistics faculty (<https://stat.illinois.edu/directory/faculty/>)
 Statistics advising (<https://stat.illinois.edu/academics/advising/>)
 Statistics email (stat-undergrad@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/>)