BS with a Major in Statistics

Program Codes:
20FT0329BS

The Bachelor of Science with a Major in Statistics is intended for students planning advanced study in statistics or for a career in the data-oriented applications of these disciplines to a wide variety of areas such as accounting, actuarial science, auditing, biostatistics, data management, financial analysis, hospital administration, long-range developmental planning, pharmaceuticals, traffic controls, and transportation management.

Majors in Statistics must complete a concentration in either Statistical Theory and Methods or Applied Statistics.

Degree Requirements

To earn a Bachelor of Science in Liberal Arts and Sciences degree from UIC, students must complete university, college, and department degree requirements. The degree requirements for Department of Mathematics, Statistics, and Computer Science degree requirements are outlined below. Students should consult the *College of Liberal Arts and Sciences* section for additional degree requirements and college academic policies.

Code	Title	Hours
Summary of Requirements		
Major requirements		39
General Education and Electives to reach Minimum Total Hours		81
Total Hours		**120**

General Education

See *General Education and Writing-in-the-Discipline* in the College of Liberal Arts and Sciences section for information on meeting these requirements.

Major Requirements

Code	Title	Hours
Required Courses		
MATH 180	Calculus I [a,b]	4
MATH 181	Calculus II [b]	4
MATH 210	Calculus III [b]	3
MATH 300	Writing for Mathematics [c]	1
STAT 381	Applied Statistical Methods I	3
STAT 382	Statistical Methods and Computing	3
STAT 385	Elementary Statistical Techniques for Machine Learning and Big Data	3
STAT 401	Introduction to Probability	3
STAT 481	Applied Statistical Methods II	3
In addition, students must choose one of the following concentrations:		12
Concentration I—Statistical Theory and Methods		
MATH 215	Introduction to Advanced Mathematics	
MATH 310	Applied Linear Algebra	
MATH 313	Analysis I	
One 400-level statistics course		
Concentration II—Applied Statistics		
Four courses in an area or topic of student interest, chosen in consultation with an advisor. The courses may be in any area outside the MSCS department that can utilize statistical methods. At least two courses must be at the 200-level or above.		
Total Hours		**39**

a *MATH 180 fulfills the LAS Quantitative Reasoning requirement.*

b *This course is approved for the Analyzing the Natural World (nonlaboratory) General Education category.*

c *MATH 300 fulfills the Writing-in-the-Discipline requirement.*

Recommended Plan of Study (Concentration I—Statistical Theory and Methods)

Students who do not place into MATH 180 should expect to take summer session courses and possibly take longer than four years to graduate. Students who have taken AP exams in calculus or computer science need to see a departmental advisor for correct placement.

Course	Title	Hours
First Year		
Fall Semester		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
MATH 180	Calculus I [a]	4
Foreign Language		4
General Education Requirement course		3-5
	Hours	**14-16**
Spring Semester		
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
MATH 181	Calculus II	4
Foreign Language		4
General Education Requirement course		3-5
	Hours	**14-16**
Second Year		
Fall Semester		
MATH 210	Calculus III	3
MATH 215	Introduction to Advanced Mathematics	3
Foreign Language		4
General Education Requirement course		3
Elective		3
	Hours	**16**
Spring Semester		
MATH 310	Applied Linear Algebra	3
STAT 381	Applied Statistical Methods I	3
Foreign Language		4
General Education Requirement course		3-5
	Hours	**13-15**

Third Year		
Fall Semester		
STAT 382	Statistical Methods and Computing	3
STAT 401	Introduction to Probability	3
General Education Requirement course		3
Elective		3
Elective		3
	Hours	**15**
Spring Semester		
STAT 385	Elementary Statistical Techniques for Machine Learning and Big Data	3
STAT 481	Applied Statistical Methods II	3
MATH 300	Writing for Mathematics	1
General Education Requirement course		3
General Education Requirement course/Elective		3
Elective		3
	Hours	**16**
Fourth Year		
Fall Semester		
MATH 313	Analysis I	3
Electives		12
	Hours	**15**
Spring Semester		
STAT Elective [b]		3
Electives		12
	Hours	**15**
	Total Hours	**120**

a *By placement.* MATH 180 *satisfies the LAS Quantitative Reasoning requirement with a grade of C or better*.

b *Any 400-level course in the STAT rubric.*

Note: The requirement of two additional courses taken from any general education category is satisfied by MATH 180 and MATH 181.