BA in Statistics

Degree Program Description

Statistics is a modern science concerned with making decisions and inferences from empirical data subject to random variability and error. It deals with designing experiments, sample surveys, summarizing numerical information, building and analyzing statistical models, prediction and choosing between alternate actions. Statistics can tell us how much safer it is to fly than drive, the odds of winning the lottery, our life expectancy and who is likely to win the next election. The BA in Statistics allows students to pursue either a traditional track or an applied track. Students who are interested in graduate study are strongly encouraged to follow the traditional track. All students are encouraged to supplement their work in statistics with courses from areas such as economics, biology, accounting, finance, marketing, management, psychology, sociology, engineering, agriculture and atmospheric science. Because of its importance as a scientific method, the demand for trained statisticians has grown in education, medicine, government, business and industry as well as in the biological, social and physical sciences. Students are trained to meet this demand and develop careers in teaching and research.

Major Program Requirements

Students must complete the university general education requirements (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/), university graduation requirements (http://catalog.missouri.edu/academicdegreerequirements/universityrequirements/), and the Department Degree Requirements (http://catalog.missouri.edu/collegeofartsandscience/statistics/#undergraduatetext), in addition to the degree requirements below.

Mathematics courses

Traditional track		
MATH 1500	Analytic Geometry and Calculus I	5
MATH 1700	Calculus II	5
MATH 2300	Calculus III	3
MATH 4140	Matrix Theory	3
Applied track		
MATH 1500	Analytic Geometry and Calculus I	5-6
or MATH 1300 & MATH 1400	Finite Mathematics and Calculus for Social and Life Sciences I	

6 additional credits in statistics (beyond those used to fulfill the statistics requirements of the degree) or approved statistically-oriented courses; must be numbered 4000 or above and may not include STAT 4050 Connecting Statistics to Middle and Secondary Schools

Statistics Courses

Traditional Track		
STAT 4970W	Junior/Senior Seminar - Writing Intensive	3
STAT 4710	Introduction to Mathematical Statistics	3
or STAT 4750	Introduction to Probability Theory	

15 additional credits offered by the department, at least 12 of which must be numbered 3000 or above and may not include STAT 4050: Connecting Statistics to Middle and Secondary Schools or more than 3 credits of STAT 4999: Departmental Honors in Statistics

Applied Track		
STAT 4970	Junior/Senior Seminar	3
STAT 4710	Introduction to Mathematical Statistics	3
or STAT 4760	Statistical Inference	
or STAT 3500	Introduction to Probability and Statistics II	

21 additional credits offered by the department, at least 18 of which must be numbered 3000 or above and may not include STAT 4050: Connecting Statistics to Middle and Secondary Schools or more than 3 credits of STAT 4999: Departmental Honors in Statistics

Computing Courses

Both tracks		
INFOTC 1040	Introduction to Problem Solving and Programming	3

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year				
Fall	**CR**		**Spring**	**CR**
MATH 1160+	5		MATH 1500	5
ENGLSH 1000+	3		INFOTC 1040	3
Elective	3		Second Language II+	4
Second Language I+	4		American History or Government+	3
	15			**15**
Second Year				
Fall	**CR**		**Spring**	**CR**
MATH 1700	5		MATH 2300	3
STAT 2500	3		STAT 3500	3
Second Language III+	4		Behav Science Elective+	3
WI Elective	3		Hum/Fine Arts Elective+	3
			Soc Science Elective+	3
	15			**15**
Third Year				
Fall	**CR**		**Spring**	**CR**
MATH 4140	3		STAT 4510	3
STAT 4110	3		STAT 4710	3
Hum/Fine Arts Elective+	3		Behav Sci Elective+	3
Soc Science Elective+	3		Hum/Fine Arts Elective+	3
Elective	3		Elective	3
	15			**15**
Fourth Year				
Fall	**CR**		**Spring**	**CR**
STAT 4520	3		STAT 4760	3
STAT 4750	3		STAT 4970W+	3
Hum/Fine Arts elective	3		Electives	8
Electives	6			
	15			**14**

Total Credits: 119

\+ Course meets University General Education and/or campus requirements