

Department of Statistics

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Faculty

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ASSISTANT PROFESSOR S. Guha, M. Robbins
ASSOCIATE TEACHING PROFESSOR L. D. Ries
ASSISTANT TEACHING PROFESSOR J. Fresen,
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Information is needed to solve the many problems of today's world. How much information? What kind? After it is obtained, what must be done with it? Statisticians are trained to help answer these questions. Early admission into the Statistics Department will allow students to plan their programs so that the math and statistics prerequisites can be taken in the most efficient sequence.

The department offers BA, BS, MA and PhD degrees with a major in Statistics. A minor is also available.

Credit for beginning courses:

(Applies to all students and all majors.)

- A student may not receive credit toward an undergraduate degree for more than one of STAT 1200, 1300 and 1400.
- A student may not receive credit toward an undergraduate degree for more than one of STAT 2500 and 2530.
- Subject to the above restrictions, a student may receive a maximum of 4 credits toward an undergraduate degree for any combination of STAT 1200, 1300, 1400, 2200, 2500 and 2530.
- A student may not receive credit toward an undergraduate degree for any statistics course numbered 2999 or below if a statistics course numbered 4000 or above was successfully completed prior to or concurrent with the course in question. Exceptions may be approved at the discretion of the department.

Major Program Requirements - Statistics

The Department of Statistics approves majors in statistics only for students who have met the following criteria:

- Completion of at least one statistics course at the 3000-level or above (or equivalent)
- Cumulative GPA of at least 2.50 overall
- Have earned a grade of C or higher in each statistics course completed

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. In addition, students must complete all degree, college and university graduation requirements, including university general education.

Options

Students may pursue either a BA or a BS degree. For both degrees, students may pursue either a traditional track or an applied track. Students who are interested in graduate study in statistics are strongly encouraged to follow the traditional track.

Major core requirements - Bachelor of Arts

Mathematics courses

Traditional track

MATH 1500: Analytical Geometry and Calculus I
MATH 1700: Calculus II
MATH 2300: Calculus III
MATH 4140: Matrix Theory

Applied track

MATH 1500: Analytic Geometry and Calculus I
OR MATH 1300: Finite Mathematics
AND MATH 1400: 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 4970: Senior Seminar
STAT 4710: Introduction to Mathematical Statistics
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

18 additional credits offered by the department, at least 15 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

CMP SC 1040: Introduction to Problem Solving
and Programming
OR CMP SC 1050: Algorithm Design and Programming I

Major core requirements - Bachelor of Science

Mathematics courses

Traditional track

MATH 1500: Analytical Geometry and Calculus I
MATH 1700: Calculus II
MATH 2300: Calculus III
MATH 4140: Matrix Theory

Applied track

MATH 1500: Analytic Geometry and Calculus I
OR MATH 1300: Finite Mathematics
AND MATH 1400: Calculus for Social and
Life Sciences I

6 additional credits in statistics courses (beyond those used to

fulfill the statistics requirements of the degree) or approved statistically-oriented courses; must be numbered 4000 or above

Statistics courses

Traditional Track

STAT 4970: Senior Seminar

STAT 4710: Introduction to Mathematical Statistics

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

18 additional credits offered by the department, at least 15 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

CMP SC 1040: Introduction to Problem Solving and Programming

OR CMP SC 1050: Algorithm Design and Programming I

AND 3 additional credits in computer science or other approved computing courses (STAT 4110: Statistical Software and Data Analysis may be used as part of this requirement if it is not counted in statistics group above.)

Professional writing courses

ENGLSH 2030: Professional Writing

Foreign language option for students pursuing a BS degree

Students pursuing the BS degree may elect to take an alternative to a foreign language. Such students must complete no fewer than 12 upper-class credits that are not from the parent department, are not normally required of departmental majors and do not appear elsewhere in the graduation plan. This program must be carefully planned to form a coherent unit and must be approved by the director of undergraduate studies.

The following are examples of foreign language alternatives:

- mathematical sciences
- biological sciences
- behavioral sciences
- physical sciences
- business
- engineering
- economics

Minor in Statistics

A minor in statistics requires a minimum of 15 credits in statistics courses numbered 3000 or above. The courses used to complete the minor must be chosen in consultation with the director of undergraduate studies and must include at least one of the following:

STAT 3500: Introduction to Probability and Statistics II

STAT 4710: Introduction to Mathematical Statistics

STAT 4750: Introduction to Probability Theory

A maximum of 3 of the 15 credits may be in:

STAT 4002: Topics in Statistics

OR STAT 4085: Problems in Statistics for Undergraduates

Departmental Honors

To be admitted to the undergraduate honors program in the Department of Statistics, a student must have completed at least 12 of the 21 credits of statistics courses required for the major, have a grade-point average of at least 3.25 in all completed statistics courses, and identify a faculty member from the department who agrees to supervise the student's honors research project.

In order to receive the departmental honors designation, students who have been accepted into the program must graduate with a grade-point average of at least 3.25 in statistics courses, prepare a senior thesis based on their honors project, and present the results of the thesis in a departmental colloquium or other public forum approved by their mentor. They also must earn a grade of "B" or better in 3 credits of STAT 4999.