Twin Cities Campus

Statistics B.S. Stat.

College of Science and Engineering - Adm

College of Science and Engineering

- **Students will no longer be accepted into this program after Summer 2017. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2017
- Required credits to graduate with this degree: 120
- Required credits within the major: 54 to 60
- Degree: Bachelor of Science in Statistics

This program gives students an understanding of the theory of statistics, trains them in basic use of the most important types of statistical methods, and prepares them for graduate work or for jobs in such diverse areas as marketing analysis, quality management, and support for scientific research.

The program provides a broad foundation in statistics that can be combined with coursework in other technical disciplines or as a basis for further specialization in statistics.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 4 courses before admission to the program.

Freshman and transfer students students are usually admitted to pre-major status before admission to this major

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Required prerequisites

Mathematics

MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1372 - CSE Calculus II (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)
or MATH 2374 - CSE Multivariable Calculus and Vector Analysis (4.0 cr)
or **Linear Algebra and Differential Equations**
MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)
or MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)

Statistics

STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or STAT 3021 - Introduction to Probability and Statistics (3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Mathematics

MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)

Major Courses

MATH 4242 - Applied Linear Algebra (4.0 cr)

STAT 3022 - Data Analysis (4.0 cr)
STAT 4893W - Consultation and Communication for Statisticians [WI] (3.0 cr)
Take one of the following pairs of courses.
STAT 4101 - Theory of Statistics I (4.0 cr)
STAT 4102 - Theory of Statistics II (4.0 cr)
or STAT 5101 - Theory of Statistics I (4.0 cr)
STAT 5102 - Theory of Statistics II (4.0 cr)
or STAT 5101 - Theory of Statistics I (4.0 cr)
MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)

Computer and Physical Sciences

CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
or CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
Students must complete 3 science courses with a lab component, chosen from at least 2 of the fields of physics, chemistry, biology.
Take 3 or more course(s) including 2 or more sub-requirements(s) from the following:
Take 0 - 1 course(s) from the following:
•BIOL 1009 - General Biology [BIOL] (4.0 cr)
•BIOL 1009H - Honors: General Biology [BIOL] (4.0 cr)
•Take 0 - 4 course(s) from the following:
•CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
•CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
•CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
•CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)
•Take 0 - 2 course(s) from the following:
•PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
•PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)

Electives

Take 3 or more courses from the following
Take 3 or more course(s) from the following:
•STAT 5031 *{Inactive}*(4.0 cr)
•STAT 5041 *{Inactive}*(3.0 cr)
•STAT 5201 - Sampling Methodology in Finite Populations (3.0 cr)
•STAT 5302 - Applied Regression Analysis (4.0 cr)
•STAT 5303 - Designing Experiments (4.0 cr)
•STAT 5401 - Applied Multivariate Methods (3.0 cr)
•STAT 5421 - Analysis of Categorical Data (3.0 cr)
•STAT 5601 - Nonparametric Methods (3.0 cr)
•STAT 5511 - Time Series Analysis (3.0 cr)

Technical Electives

Students complete 10 credits of adviser-approved courses in computer science, biostatistics, industrial engineering, mathematics, or other areas.
Technical Elective

Upper-division Writing Intensive within the major

Students are required to take one upper-division Writing Intensive course within the major. If that requirement has not been satisfied within the core major requirements, students must choose one course from the following list. Some of these courses may also fulfill other major requirements.
Take 0 - 1 course(s) from the following:
•STAT 4893W - Consultation and Communication for Statisticians [WI] (3.0 cr)