Twin Cities Campus

Statistics Ph.D.

Statistics, School of
College of Liberal Arts

Link to a list of faculty for this program.

Contact Information:
School of Statistics, 313 Ford Hall, 224 Church Street SE, Minneapolis, MN 55455 (612-625-8046; fax: 612-624-8868)
Email: info@stat.umn.edu
Website: http://www.stat.umn.edu

- Program Type: Doctorate
- Requirements for this program are current for Spring 2022
- Length of program in credits: 73
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The School of Statistics is the primary venue at the University for research, teaching, and dissemination of the theory, methodology, and applications of statistical procedures. Students may specialize in any area of statistics. The core program for all students has strong components of theoretical, computational, and applied statistics.

Program Delivery

This program is available:

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

Prerequisites for Admission

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to test abbreviations(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

40 credits are required in the major.
9 credits are required outside the major.
24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

A maximum of 9.0 units of S/N graded courses can apply to these requirements.

Core Courses (28 credits)

Take the following courses. Take STAT 8913 for a total of 4 credits.

STAT 8051 - Advanced Regression Techniques: linear, nonlinear and nonparametric methods (3.0 cr)
STAT 8052 - Applied Statistical Methods 2: Design of Experiments and Mixed -Effects Modeling (3.0 cr)
STAT 8053 - Applied Statistical Methods 3: Multivariate Analysis and Advanced Regression (3.0 cr)
STAT 8054 - Statistical Methods 4: Advanced Statistical Computing (3.0 cr)
STAT 8111 - Mathematical Statistics I (3.0 cr)
STAT 8112 - Mathematical Statistics II (3.0 cr)
STAT 8311 - Linear Models (3.0 cr)
STAT 8801 - Statistical Consulting (3.0 cr)
STAT 8913 - Literature Seminar (1.0 cr)

Electives (12 credits)

Select 12 credits from the following in consultation with the advisor. Other coursework can be applied to this requirement with approval of the advisor and director of graduate studies.

PUBH 7420 - Clinical Trials: Design, Implementation, and Analysis (3.0 cr)
PUBH 7450 - Survival Analysis (3.0 cr)
PUBH 8442 - Bayesian Decision Theory and Data Analysis (3.0 cr)
PUBH 8472 - Spatial Biostatistics (3.0 cr)
STAT 8056 - Statistical Learning and Data Mining (3.0 cr)
STAT 8511 - Time Series Analysis (3.0 cr)
STAT 8931 - Advanced Topics in Statistics (3.0 cr)
STAT 8932 - Advanced Topics in Statistics (3.0 cr)

Outside Coursework (9 credits)

Required Math Courses (6 credits)

Take the following courses. Comparable courses can be substituted with approval of the advisor and director of graduate studies.

MATH 8651 - Theory of Probability Including Measure Theory (3.0 cr)
MATH 8652 - Theory of Probability Including Measure Theory (3.0 cr)

Additional Courses (3 credits)

Select 3 credits in consultation with the advisor and director of graduate studies to complete the 9-credit minimum.

CSCI 5525 - Machine Learning: Analysis and Methods (3.0 cr)
IE 8521 - Optimization (4.0 cr)
MATH 5075 - Mathematics of Options, Futures, and Derivative Securities I (4.0 cr)
MATH 5076 - Mathematics of Options, Futures, and Derivative Securities II (4.0 cr)
MATH 8659 - Stochastic Processes (3.0 cr)
POL 8124 - Game Theory (3.0 cr)

Thesis Credits

Take 24 doctoral thesis credits.

STAT 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)