Twin Cities Campus

Biostatistics M.S.

School of Public Health - Adm

School of Public Health

Link to a list of faculty for this program.

Contact Information:
School of Public Health, MMC 819, A395 Mayo Memorial Building, 420 Delaware Street, Minneapolis, MN 55455 (612-626-3500 OR 1-800-774-8636)
Email: sph-ask@umn.edu
Website: http://www.sph.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2020
- Length of program in credits: 30 to 34
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

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 biostatistics MS prepares graduates to collaborate with researchers across a wide array of scientific disciplines in the design of biomedical studies, development of statistical tools, and the analysis of data.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.10.

Other requirements to be completed before admission:
The admissions committee reviews applicants according to their record of academic achievement, demonstrated academic potential, letters of recommendation, background and experience, and other factors. GPA and standardized test scores provide competitive points of preference for admission but are not alone decisive in the admissions review. At least three semesters of calculus (including multivariable calculus) and one semester of linear algebra, as well as a year (two semesters) of coursework in undergraduate-level probability and mathematical statistics are recommended. Experience with a programming language (e.g., R, Java, C, Python) and exposure to applied statistics is helpful, but not required.

Special Application Requirements:
Applications are accepted for fall semester admission only.

Applicants must submit their test score(s) from the following:
- GRE
  - General Test - Verbal Reasoning: 150
  - General Test - Quantitative Reasoning: 146
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 100
  - Paper Based - Total Score: 600
- IELTS
  - Total Score: 7
- MELAB
  - Final score: 80

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

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

Information current as of March 28, 2024

Program Requirements

Plan A: Plan A requires 20 major credits, up to null credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 34 major credits and up to null credits outside the major.The final exam is oral. A capstone project is required.
Capstone Project: PubH 7494, Integrated Learning Experience, 3 credits

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.

Courses must be taken A/F, unless offered only S/N.

Biostatistics Plan A Requirements (30 credits)
Required Coursework (2 credits)
PUBH 6250 - Foundations of Public Health (2.0 cr)
Biostatistics Courses (12 credits)
Select 12 credits in consultation with advisor.
PUBH 7405 - Biostatistical Inference I (4.0 cr)
PUBH 7406 - Biostatistical Inference II (3.0 cr)
PUBH 7420 - Clinical Trials: Design, Implementation, and Analysis (3.0 cr)
PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)
PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
PUBH 7445 - Statistics for Human Genetics and Molecular Biology (3.0 cr)
PUBH 7450 - Survival Analysis (3.0 cr)
PUBH 7460 - Advanced Statistical Computing (3.0 cr)
PUBH 7461 - Exploring and Visualizing Data in R (2.0 cr)
PUBH 7462 - Advanced Programming and Data Analysis in R (2.0 cr)
PUBH 7465 - Biostatistics Consulting (2.0 cr)
PUBH 7470 - Study Designs in Biomedical Research (3.0 cr)
PUBH 7475 - Statistical Learning and Data Mining (3.0 cr)
PUBH 7485 - Methods for Causal Inference (3.0 cr)
PUBH 8422 *{Inactive}*(3.0 cr)
PUBH 8445 - Statistics for Human Genetics and Molecular Biology (3.0 cr)
PUBH 8472 - Spatial Biostatistics (3.0 cr)
PUBH 8475 - Statistical Learning and Data Mining (3.0 cr)
PUBH 8485 - Methods for Causal Inference (3.0 cr)
Electives (6 credits)
Complete 6 credits in consultation with advisor.
MATH 5615H - Honors: Introduction to Analysis I (4.0 cr)
MATH 5616H - Honors: Introduction to Analysis II (4.0 cr)
STAT 5101 - Theory of Statistics I (4.0 cr)
STAT 5102 - Theory of Statistics II (4.0 cr)
STAT 5401 - Applied Multivariate Methods (3.0 cr)
STAT 5601 - Nonparametric Methods (3.0 cr)
STAT 8101 - Theory of Statistics 1 (3.0 cr)
STAT 8102 - Theory of Statistics 2 (3.0 cr)
Plan A Thesis (10 credits)
PUBH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Biostatistics Plan B Requirements (34 credits)
In consultation with advisor, Plan B students complete 34 credits.
Biostatistics Core (14 credits)
PUBH 7405 - Biostatistical Inference I (4.0 cr)
PUBH 7406 - Biostatistical Inference II (3.0 cr)
PUBH 7420 - Clinical Trials: Design, Implementation, and Analysis (3.0 cr)
PUBH 7450 - Survival Analysis (3.0 cr)
STAT 5101 - Theory of Statistics I (4.0 cr)
or STAT 8101 - Theory of Statistics 1 (3.0 cr)

STAT 5102 - Theory of Statistics II (4.0 cr)
or STAT 8102 - Theory of Statistics 2 (3.0 cr)

Public Health Foundations (2 credits)

PUBH 6250 - Foundations of Public Health (2.0 cr)

Biostatistics Electives (8 credits)

Plan B students complete courses in consultation with advisor to meet the 34-credit minimum.
GEOG 5561 - Principles of Geographic Information Science (4.0 cr)
GIS 5571 - ArcGIS I (3.0 cr)
MATH 5615H - Honors: Introduction to Analysis I (4.0 cr)
MATH 5616H - Honors: Introduction to Analysis II (4.0 cr)
PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)
PUBH 7435 *{Inactive}*(3.0 cr)
PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
PUBH 7445 - Statistics for Human Genetics and Molecular Biology (3.0 cr)
PUBH 7460 - Advanced Statistical Computing (3.0 cr)
PUBH 7461 - Exploring and Visualizing Data in R (2.0 cr)
PUBH 7462 - Advanced Programming and Data Analysis in R (2.0 cr)
PUBH 7465 - Biostatistics Consulting (2.0 cr)
PUBH 7470 - Study Designs in Biomedical Research (3.0 cr)
PUBH 7475 - Statistical Learning and Data Mining (3.0 cr)
PUBH 7485 - Methods for Causal Inference (3.0 cr)
PUBH 8422 *{Inactive}*(3.0 cr)
PUBH 8472 - Spatial Biostatistics (3.0 cr)
STAT 5401 - Applied Multivariate Methods (3.0 cr)
STAT 5601 - Nonparametric Methods (3.0 cr)
WRIT 5051 - Graduate Research Writing for International Students (3.0 cr)
WRIT 5052 - Graduate Research Presentations and Conference Writing for Non-Native Speakers of English (3.0 cr)

Plan B Project (3 credits)

PUBH 7494 - Integrative Learning Experience: Biostatistics (1.0 - 3.0 cr)