

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: <u>sph-ask@umn.edu</u> Website: <u>http://www.sph.umn.edu</u>

- Program Type: Master's
- Requirements for this program are current for Fall 2022
- Length of program in credits: 36
- 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 <u>General Information</u> section of the catalog website for requirements that apply to all major fields.

The biostatistics master's degree programs teach and develop statistical skills to put numbers into context as part of public health research for solving human health-related problems. With an MS in biostatistics, students will have the skills to collaborate on the design of biomedical studies, analyze data, and communicate the results for researchers.

The School of Public Health is accredited by the Council on Education for Public Health (CEPH).

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.

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(TOEFL, IELTS, MELAB).

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



Program Requirements

Plan B: Plan B requires 36 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, 1 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 offered on both the A-F and S/N grading basis must be taken A-F.

Biostatistics Plan B Requirements (36 credits)

In consultation with advisor, students complete 36 credits.

Biostatistics Core (18 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)
- PUBH 7430 Statistical Methods for Correlated Data (3.0 cr)
- PUBH 7465 Biostatistics Consulting (2.0 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 (9 credits)

Students complete courses in consultation with advisor to meet the 36-credit minimum.

Computing and Machine Learning (3 credits)

Take 3 or more credit(s) from the following:

•PUBH 6420 - Introduction to SAS Programming (1.0 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 7475 Statistical Learning and Data Mining (3.0 cr)

Additional Electives (6 credits)

Take 6 or more credit(s) from the following:

•PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)

- •PUBH 7445 Statistics for Human Genetics and Molecular Biology (3.0 cr)
- •PUBH 7470 Study Designs in Biomedical Research (3.0 cr)
- •PUBH 7485 Methods for Causal Inference (3.0 cr)
- •PUBH 8472 Spatial Biostatistics (3.0 cr)

Plan B Project (1 credit)

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