2025-2026 PROGRAM GUIDE: Master of Science - Biostatistics

Information in this document is updated annually. Please refer to the document for the year you entered the program. Student resources, policies, and procedures applicable to all School of Public Health graduate students can be found on the SPH website, http://ohsu-psu-sph.org.

Overview

Director: Rongwei (Rochelle) Fu, PhD (fur@ohsu.edu)
ohsu-psu-sph.org/ms-in-biostatistics

The Master of Science in Biostatistics program is designed to provide graduate level training in the application and theory of biostatistics, and seeks to serve those wishing to pursue career as an intermediate level biostatistician or apply for doctoral programs in Biostatistics. The MS program is also appropriate for individuals who have earned a Graduate Certificate in Biostatistics and wish to pursue further training, some clinical and translational researchers (e.g. K awardees or postdoctoral trainees), students in other graduate programs, and working professionals throughout the state and region (e.g. public health practitioners, laboratory scientists, data managers, database programmers and other research professionals).

Per OHSU policy, students have up to 6 years from the date of matriculation to complete their degree.

Program Competencies

Graduates of this program will be able to:

- Understand theoretical foundation of statistical inference and its link to applications.
- Apply data management skills and conduct statistical analysis for health sciences research projects.
- Translate broad research goals into specific questions and procedures for statistical analysis and interpret results in basic, clinical, translational, and public health research studies.
- Select and use appropriate statistical analysis software for analysis and information sharing (e.g., R, SAS, or other programs).
- Communicate statistical methods and findings to specialists and non-specialist audiences.
- Apply ethical and equitable data principles that govern statistical practice.

MS Biostatistics Program of Study

Course Number	Course Title	Credits
Required Coursework (38 Credits)		
BSTA 511	Estimation and Hypothesis Testing for Applied Biostatistics	4
BSTA 512	Linear Models	4
BSTA 513	Categorical Data Analysis	4
BSTA 514	Statistical Analysis of Time-to-Event Data	3
BSTA 517	Statistical Methods in Clinical Trials	3
BSTA 519	Applied Longitudinal Data Analysis	3
BSTA 535	Biostatistics Capstone	3
BSTA 550	Introduction to Probability	3
BSTA 551	Theory of Statistical Inference	4
PHE 513	Introduction to Public Health	3
EPI 512	Epidemiology I	4

Elective Coursework (16 Credits)		
BSTA 500	Reading and Conference	1-3
BSTA 515	Data Management and Analysis in SAS	3
BSTA 516	Design and Analysis of Surveys	3
BSTA 521	Bayesian Methods for Data Analysis	3
BSTA 522	Statistical Machine Learning and Big Data	3
BSTA 523	Design of Experiments: Statistical Principles of Research Design & Analysis	3
BSTA 526	R Programming for Health Data Science	3
EPI 513	Epidemiology II (Methods)	4
BMI 510	Introduction to Biomedical Informatics & AI	3
BMI 525	Principles and Practice of Data Visualization	3
BMI 550	Bioinformatics and Computational Biology I: Algorithms	4
BMI 551	Bioinformatics and Computational Biology II: Statistical	4
NURS 630	Advanced Measurement	3
NURS 648	Introduction to Structural Equation Modeling	3
UNI 511	Data Equity for Health Professionals	2
PSU STAT 567	Applied Probability 1	3
PSU STAT 568	Applied Probability 2	3
PSU STAT 580	Nonparametric Methods	3
	Other relevant courses with program approval	
	Total Credits	**54**

MS: Biostatistics Recommended Course Sequencing

Below is a sample schedule. Other schedules are possible***; always consult your Faculty Advisor regarding your program of study and course selection to determine the schedule that fits best for you.*** If you receive federal financial aid, it's important to be aware of financial aid requirements when planning your schedule. Federal loans require at least 1/2 time enrollment (5 credits). Please refer to the OHSU's "Student Financial Aid Explained" and "Standard Enrollment Plan" documents, paying particular attention to summer term, for more information. These documents can be found on OHSU's Financial Aid website here: https://www.ohsu.edu/education/financial-aid.

Year 1			
Fall	**Winter**	**Spring**	**Summer**
BSTA 550 Intro to Problty (3 cr.)	BSTA 551 Theory of Stat Inf (4 cr.)	BSTA 513 Categorical Data Analysis (4 cr.)	BSTA 517 Stats Mthds Clinical Trials (3 cr.)
BSTA 511 Est/Hypothesis Testing for Applied Biostats (4 cr.)	BSTA 512 Linear Models (4 cr.)	EPI 512 Epidemiology I (4 cr.)	
PHE 513 Intro to Pblc Hlth (3 cr.)	Elective: e.g., BSTA 526 R Programming for Health Data Science (3 cr.)	Elective: e.g., BMI 525 Principles & Practice of Data Viz (3 cr.) or BSTA 516 Design & Anlys Surveys (3 cr.) or BSTA 523 Design of Experiments	
Attend Fall Welcome			

Year 2

Fall	Winter	Spring	Summer
BSTA 514 Statistical Analysis of Time-to-Event Data (3 cr.)	BSTA 519 Applied Longitudinal Data Analysis (3 cr.)	BSTA 535 Biostats Capstone (3 cr.)	
EPI 512 Epidemiology I (4 cr.) if not already taken		Elective	
Elective: e.g., BSTA 515 Data Mngmt & Analysis (3 cr.)	Elective: e.g., BSTA 522 Statistical Machine Learning and Big Data		
Attend Fall Welcome			

Grades

Students are not permitted to progress through the BSTA 511-513, or BSTA 550-552 course sequence unless they achieve at least a B- in each of the courses.

Biostatistics & Design Program (BDP)

The Biostatistics & Design Program (BDP) is one of the OHSU shared resource cores and is hosted by the Biostatistics group. BDP provides biostatistics support to basic, clinical and population science at all phases of research from grant submission, protocol development, and study design to statistical analysis, interpretation of analysis results and manuscript preparation. Many biostatistics faculty are involved in BDP work, and BDP also has many PhD and MS level staff providing statistical support and consultation. The BDP handles hundreds of research projects each year and provides internship opportunities for students. Students should talk to the director of BDP, Dr. Jodi Lapidus, or the research project manager Dr. Amy Laird, for internship opportunities and/or research experience.

Knight Cancer Institute Biostatistics Shared Resources (Knight BSR)

The Knight Cancer Institute Biostatistics Shared Resource (Knight BSR) is supported by the National Cancer Institute's Cancer Center Support Grant. Knight BSR provides comprehensive and integrated biostatistics support to basic, clinical and population science researchers conducting cancer research at OHSU. The BSR also provides students with opportunities to work on ongoing cancer research projects. Students should contact the BSR Director, Dr. Byung Park, for opportunities for an internship and/or research experience.

Graduate Student Resources, Policies, and Procedures

Policies and procedures applicable to all School of Public Health graduate students can be found on the SPH website at https://ohsu-psu-sph.org/graduate-students-policies-and-procedures/. Please review the student policies and procedures listed there, including but not limited to the following sections:

- Advising
- Academic Standing
- Academic Dismissal
- Academic Dishonesty
- Codes of Conduct
- Educational Records Privacy
- Minimum Course Grade Requirements
- Recognition of Prior Earned Credit
- Course Waiver Policy
- Incomplete Coursework
- Course Approvals (Electives)

- ☐ Independent Study
- ☐ International Travel and Coursework
- ☐ Continuous Enrollment
- ☐ Leave of Absence
- ☐ Withdrawal Policy
- ☐ Time Limits
- ☐ Grievance Resolution
- ☐ Degree and Certificate Conferral

Academic resources and student support services available to SPH graduate students are listed on the SPH website, www.ohsu-psu-sph.org. Please review the resources listed there.