MASTER OF SCIENCE IN THE FIELD OF BIOSTATISTICS

REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Graduate Programs (https://bulletin.gwu.edu/arts-sciences/#degreeregulationstext).

33 credits, including 27 credits in required courses and 6 credits in elective courses, and successful completion of a master's comprehensive examination.

The following requirements must be fulfilled: 33 credits, including 18 credits in statistics courses, 7 credits in public health courses, 6 credits in elective courses, 2 credits in consulting, and successful completion of a master's comprehensive examination.

Code	Title	Credits
Prerequisite courses		
The courses listed below (or equivalents) are prerequisites for admission consideration and must appear on the student's transcript. Students may apply to the program only after they have fulfilled this requirement:		
MATH 1231	Single-Variable Calculus I	
MATH 1232	Single-Variable Calculus II	
STAT 2118	Regression Analysis	

Applicants lacking the courses listed below (or equivalents) are considered for admission; however, if admitted, the student is required to complete these courses within two semesters of matriculation in the program. Credit earned in these courses does not count toward the 33 credits required for the degree and grades earned are not reflected in the overall grade-point average.

Code	Title	Credits
MATH 2184	Linear Algebra I	
MATH 2233	Multivariable Calculus	
One of the following:		
PUBH 6853	Use of Statistical Packages for Data Management and Data Analysis [*]	
STAT 2183	Intermediate Statistics Lab/Packages	

Code	Title	Credits
Required for the degree		
Statistics courses		
PUBH 6266	Biostatistical Methods	
or PUBH 8877	Generalized Linear Models in Biostatistics	
STAT 6201	Mathematical Statistics I	
STAT 6202	Mathematical Statistics II	
STAT 6210	Data Analysis	
STAT 6227	Survival Analysis	
STAT 6255	Clinical Trials	
or PUBH 6866	Principles of Clinical Trials	
Public health courses		
PUBH 6003	Principles and Practices of Epidemiology	
And two courses (2 credits) selected from the following:		
PUBH 6262	Introduction to Geographic Information Systems	
PUBH 6263	Advanced GIS	
PUBH 6850	Introduction to SAS for Public Health Research	
PUBH 6851	Introduction to R for Public Health Research	
PUBH 6852	Introduction to Python for Public Health Research	
PUBH 6856	Advanced SAS for Public Health Research	
And 2 credits in any PUBH course(s) in the 6800 range.		
Electives		
6 credits in elective courses selected from the following:		
PUBH 6854	Applied Computing in Health Data Science	
PUBH 6859	High Performance and Cloud Computing	
PUBH 6860	Principles of Bioinformatics	
PUBH 6861	Public Health Genomics	
PUBH 6862	Applied Linear Regression Analysis for Public Health Research	
PUBH 6863	Applied Meta-Analysis	

PUBH 6865	Applied Categorical Data Analysis for Public Health Research	
PUBH 6879	Propensity Score Methods for Causal Inference in Observational Studies	
PUBH 6884	Bioinformatics Algorithms and Data Structures	
PUBH 6886	Statistical and Machine Learning for Public Health Research	
PUBH 6887	Applied Longitudinal Data Analysis for Public Health Research	
STAT 3187	Introduction to Sampling	
STAT 4181	Applied Time Series Analysis	
STAT 4188	Nonparametric Statistics Inference	
STAT 6197	Fundamentals of SAS Programming for Data Management	
STAT 6214	Applied Linear Models	
STAT 6215	Applied Multivariate Analysis I	
STAT 6216	Applied Multivariate Analysis II	
STAT 6217	Design of Experiments	
STAT 6223	Bayesian Statistics: Theory and Applications	
STAT 6225	Longitudinal Data Analysis	
STAT 6231	Categorical Data Analysis	
STAT 6240	Statistical Data Mining	
STAT 6242	Modern Regression Analysis	
STAT 6252	Statistical Methods in Bioinformatics and Computational Biology	
STAT 6254	Statistical Genetics	
STAT 6287	Sample Surveys	
STAT 6289	Topics in Statistics	
STAT 8226	Advanced Biostatistical Methods	
STAT 8265	Multivariate Analysis	
STAT 8273	Stochastic Processes I	
STAT 8281	Advanced Time Series Analysis	
STAT 8288	Topics in Sample Surveys	
Consulting		
PUBH 6883	Biostatistics Consulting Practicum	
PUBH 6869	Principles of Biostatistical Consulting	

Master's comprehensive examination

Students must successfully complete a master's comprehensive examination, a written examination in the field of biostatistics based on the material covered in PUBH 6266 or PUBH 8877. The examination is administered by the faculty of the Department of Biostatistics and Bioinformatics in the Milken Institute School of Public Health.

Visit the program website (https://statistics.columbian.gwu.edu/ms-biostatistics/) for additional information.

ADMISSIONS

Admission to this program is not being offered at this time. Related programs in the field are offered by the Milken Institute School of Public Health (http://bulletin.gwu.edu/public-health/biostatistics-bioinformatics/mph-biostatistics/).