

EPIDEMIOLOGY AND BIostatISTICS: BIostatISTICS, MS

The goal of the MS program is to train students in the basic theory and applications of statistical methods, as applied to problems in the biomedical sciences. The program typically consists of two years of full-time study, including the preparation of a Master's thesis. Requirements include courses in probability, mathematical statistics, and statistical methods including linear models, longitudinal data analysis, survival analysis, statistical computing, and applied data analysis.

For more information: <https://www.med.upenn.edu/ggeb/BioMSAcademics.shtml> (<https://www.med.upenn.edu/ggeb/BioMSAcademics.shtml>)

View the University's Academic Rules for Research Master's Programs (<http://catalog.upenn.edu/pennbook/academic-rules-research-masters/>).

Required Courses

Code	Title	Course Units
Coursework		
<i>Theory Courses</i>		
BSTA 6200	Probability I	
BSTA 6210	Statistical Inference I	
<i>Methods Courses</i>		
BSTA 6300	Statistical Methods and Data Analysis I	
BSTA 6320	Statistical Methods for Categorical and Survival Data	
BSTA 6510	Introduction to Linear Models and Generalized Linear Models	
BSTA 6560	Longitudinal Data Analysis	
BSTA 6600	Design of Observational Studies	
BSTA 6610	Design of Interventional Studies	
BSTA 6700	Statistical Computing	
BSTA 5110	Biostatistics in Practice	
<i>Additional Coursework</i>		
Advanced Electives		

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2024 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sample Plan of Study

Code	Title	Course Units
Year 1		
<i>Fall</i>		
BSTA 6200	Probability I	

BSTA 6300	Statistical Methods and Data Analysis I
BSTA 6600	Design of Observational Studies
BSTA 6610	Design of Interventional Studies
<i>Spring</i>	
BSTA 6210	Statistical Inference I
BSTA 6320	Statistical Methods for Categorical and Survival Data
BSTA 6510	Introduction to Linear Models and Generalized Linear Models
Year 2	
<i>Fall</i>	
BSTA 7540	Advanced Survival Analysis
BSTA 6560	Longitudinal Data Analysis
BSTA 5110	Biostatistics in Practice
Advanced Elective	
<i>Spring</i>	
BSTA 6700	Statistical Computing
Advanced Elective	