Biostatistics

The graduate programs in Biostatistics offers comprehensive course work leading to a Master of Science (Sc.M.); a Master of Arts (A.M.) degree for students in the 5th-year Master's program and Brown's Open Graduate Education Program; and the Doctor of Philosophy (Ph.D.) degrees. The Ph.D. program is intended to enable graduates to pursue independent programs of research.

Full details for the Biostatistics Doctoral Program can be found at https://www.brown.edu/academics/public-health/biostats/academics/doctoral-program (https://www.brown.edu/academics/public-health/biostats/academics/doctoral-program/).

The Sc.M. program provides training for application of advanced methodology in professional and academic settings. The Department of Biostatistics offers a 5th-Year Master's (https://www.brown.edu/academics/public-health/biostats/academics/masters-program/5th-year/) (A.M. degree) which is available to Brown Undergraduates. Required courses for the Biostatistics Master's degree program are listed below. Additional details can be found on the Department's webpage: https:\\brown.edu\biostatistics (https://www.brown.edu/academics/public-health/biostatistics/)

For more information on admission and program requirements, please visit https://www.brown.edu/academics/public-health/admissions (https://www.brown.edu/academics/public-health/admissions/)

The graduate programs in Biostatistics are designed to provide training in theory, methodology, and practice of statistics in biology, public health, and medical science. The programs provide comprehensive training in theory and methods of biostatistics, but is highly interdisciplinary and requires students to acquire expertise in a field of application.

Requirements for the ScM

Required Courses -ScM (7 biostatistics plus PHP 1001

PHP 2515	Fundamentals of Probability and Statistical Inference (OR)	1
PHP 2520	Statistical Inference I	1
PHP 2514	Applied Generalized Linear Models	1
PHP 2516	Applied Longitudinal Data Analysis (1/2 course)	.5
PHP 2517	Applied Multilevel Data Analysis (1/2 course)	.5
PHP 2550	Practical Data Analysis	1
PHP 2560	Statistical Programming with R	1
PHP 2610	Causal Inference and Missing Data	1
PHP 2650	Statistical Learning and Big Data	1
PHP 1001 Scope of Public Health (online course)		

Electives (3 Courses)

Statistical Electives		
PHP 2030	Clinical Trials Methodology	1
PHP 2530	Bayesian Statistical Methods	1
PHP 2580	Statistical Inference II	1
PHP 2601	Linear Models	1
PHP 2602	Analysis of Lifetime Data	1
PHP 2605	Generalized Linear Models	1
PHP 2620	Statistical Methods in Bioinformatics, I	1
PHP 2980	Graduate Independent Study and Thesis Research	1-5
PHP 2590	Design of Experiments	1
PHP 2670	Simulation Models for Public Health Decision Making	1
Epidemiology Electives		
PHP 2120	Introduction to Methods in Epidemiologic Research	1
PHP 2150	Foundations in Epidemiologic Research Methods	1
PHP 2200	Intermediate Methods in Epidemiologic Research	1
Programming and Data Science Electives		
PHP 2561	Methods in Informatics and Data Science for Health	1
CSCI 1420	Machine Learning	1
CSCI 1470	Deep Learning	1
CSCI 1570	Design and Analysis of Algorithms	1
CSCI 1810	Computational Molecular Biology	1
CSCI 1820	Algorithmic Foundations of Computational Biology	1

Requirements for the AM

Required Courses -AM (4 biostatistics plus PHP 1001

PHP 2515	Fundamentals of Probability and Statistical Inference (OR)	1
PHP 2514	Applied Generalized Linear Models	1
PHP 2550	Practical Data Analysis	1
PHP 2560	Statistical Programming with R	1
PHP 1001 Scope of Public Health (online course)		

Electives (4 Courses)

Statistical Electives		
PHP 2030	Clinical Trials Methodology	1
PHP 2516	Applied Longitudinal Data Analysis	.5
PHP 2517	Applied Multilevel Data Analysis	.5
PHP 2530	Bayesian Statistical Methods	1
PHP 2580	Statistical Inference II	1
PHP 2601	Linear Models	1
PHP 2602	Analysis of Lifetime Data	1
PHP 2605	Generalized Linear Models	1
PHP 2610	Causal Inference and Missing Data	1
PHP 2620	Statistical Methods in Bioinformatics, I	1
PHP 2650	Statistical Learning and Big Data	1
PHP 2980	Graduate Independent Study and Thesis Research	1-5
PHP 2590	Design of Experiments	1
PHP 2670	Simulation Models for Public Health Decision Making	1
Epidemiology Electives		
PHP 2120	Introduction to Methods in Epidemiologic Research	1
PHP 2150	Foundations in Epidemiologic Research Methods	1
PHP 2200	Intermediate Methods in Epidemiologic Research	1
Programming and Data Science Electives		
PHP 2561	Methods in Informatics and Data Science for Health	1
CSCI 1420	Machine Learning	1
CSCI 1470	Deep Learning	1
CSCI 1570	Design and Analysis of Algorithms	1
CSCI 1810	Computational Molecular Biology	1
CSCI 1820	Algorithmic Foundations of Computational Biology	1