

**Graduate Programs in Biostatistics**

**Biostatistics @ Penn**

**Why Penn?**



**What is biostatistics?**

* Science of the design, analysis and interpretation of biomedical research studies.

**What do biostatisticians do?**

* Develop novel theory and statistical analytic methods to address the complexities of data arising from biomedical research
* Work collaboratively to design scientific studies and analyze data generated as part of biomedical research. Different types of biomedical research experiments include: clinical trials, observational studies, large health databases and human genetic studies.
* Ensure existing statistical methods are applied appropriately to evaluate hypotheses in clinical research studies

The **PhD program** trains independent researchers to fill leadership roles in the development and application of statistical methods in health research. Doctoral students take the courses for the MS program plus at least one additional semester of advanced courses in statistical theory and methods, a minor sequence in biomedical science, and a choice of advanced electives. Students must pass both written and oral qualifying examinations, complete an advanced data analysis project, and write and defend a doctoral dissertation.

The **MS program** trains students in the theory and application of statistical methods in the biomedical sciences. The MS degree requires successful completion of a written qualifying exam and a Master’s thesis. Courses include probability, mathematical statistics, epidemiology, and statistical methods including categorical data analysis, linear models, multivariate methods, survival analysis, statistical computing and applied data analysis.

The application deadline for admission in Fall 2018 is December 1, 2017. For further details please visit our website:<http://www.med.upenn.edu/ggeb/>. For questions please contact:

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**Background for Admission**

* At least one year of calculus (including multivariable methods), one semester of linear algebra, and working knowledge of a programming language.
* Previous experience with data analysis and/or statistical packages is desirable but not required.
* Advanced courses in mathematics are helpful, particularly for PhD students.
* Our current students have undergraduate degrees in various areas including: Mathematics, Statistics, Systems Engineering, Computer Science
* Low student to faculty ratio
* Renowned faculty, including several fellows of the American Statistical Association and editors of top statistics and biostatistics journals
* Research rotations with multiple faculty for PhD students

Ranked 8th highest in the nation among Biostatistics Programs by U.S. News and World Report, 2014.

The Division of Biostatistics in the Perelman School of Medicine at the University of Pennsylvania currently consists of 34 faculty members. Areas of methodologic expertise include the design and analysis of clinical trials and epidemiologic studies; statistical genetics and genomics; brain imaging; causal inference; incomplete data; health economics; and the analysis of categorical, survival, functional, longitudinal and time series outcomes. Major areas of collaboration include cancer, heart disease, urology, mental health and health services research.

The Graduate Group in Epidemiology and Biostatistics at the University of Pennsylvania offers graduate training programs leading to the Master of Science (MS) and Doctor of Philosophy (PhD) degrees in Biostatistics.