STATISTICS, PHD

Wharton's PhD program in Statistics provides the foundational education that allows students to engage both cutting-edge theory and applied problems. These include problems from a wide variety of fields within Wharton, such as finance, marketing, and public policy, as well as fields across the rest of the University such as biostatistics within the Medical School and computer science within the Engineering School.

Major areas of departmental research include:

- analysis of observational studies;
- Bayesian inference, bioinformatics;
- decision theory;
- game theory;
- high dimensional inference;
- information theory;
- machine learning;
- model selection;
- nonparametric function estimation; and
- time series analysis.

Students typically have a strong undergraduate background in mathematics. Knowledge of linear algebra and advanced calculus is required, and experience with real analysis is helpful. Although some exposure to undergraduate probability and statistics is expected, skills in mathematics and computer science are more important. Graduates of the department typically take positions in academia, government, financial services, and bio-pharmaceutical industries.

For more information: https://statistics.wharton.upenn.edu/programs/phd/curriculum/

View the University's Academic Requirements for PhD Degrees (http://catalog.upenn.edu/pennbook/academic-rules-phd/).

The total course units required for graduation is 13.

Code	Title	Course Units
Core Requirements		
STAT 927	Bayesian Statistical Theory and Methods	1
STAT 930	Probability Theory	1
STAT 931	Stochastic Processes	1
STAT 961	Statistical Methodology	1
STAT 970	Mathematical Statistics	1
STAT 971	Introduction to Linear Statistical Models	1
STAT 972	Advanced Topics in Mathematical Statistics	1
Electives [1]		
Select six course units		6
Total Course Units		13

[1] Electives must include suitable courses numbered 900 and above, when offered.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2020 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sample Plan of Study

Code	Title	Course Units
First Year		
Fall		
STAT 930	Probability Theory	
STAT 961	Statistical Methodology	
STAT 970	Mathematical Statistics	
Spring		
STAT 927	Bayesian Statistical Theory and Methods	
STAT 931	Stochastic Processes	
STAT 971	Introduction to Linear Statistical Models	
Summer		
Qualifying Examination and First Year Paper		
Second Year		
Fall		
STAT 972	Advanced Topics in Mathematical Statistics	
Two Electives		
Spring		
Three Electives		
Summer		
Second-Year Paper		
Third Year		
Fall		
Directed Study Course		
Two Electives		
Oral Exam/Thesis Proposal		
Spring		
Electives or Directed Study Units		
Fourth Year and Beyond		
Directed Study and Dissertation Research		