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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 927</td>
<td>Bayesian Statistical Theory and Methods</td>
<td>1</td>
</tr>
<tr>
<td>STAT 930</td>
<td>Probability Theory</td>
<td>1</td>
</tr>
<tr>
<td>STAT 931</td>
<td>Stochastic Processes</td>
<td>1</td>
</tr>
<tr>
<td>STAT 961</td>
<td>Statistical Methodology</td>
<td>1</td>
</tr>
<tr>
<td>STAT 970</td>
<td>Mathematical Statistics</td>
<td>1</td>
</tr>
<tr>
<td>STAT 971</td>
<td>Introduction to Linear Statistical Models</td>
<td>1</td>
</tr>
<tr>
<td>STAT 972</td>
<td>Advanced Topics in Mathematical Statistics</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives

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 2021 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sample Plan of Study

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 930</td>
<td>Probability Theory</td>
<td></td>
</tr>
<tr>
<td>STAT 961</td>
<td>Statistical Methodology</td>
<td></td>
</tr>
<tr>
<td>STAT 970</td>
<td>Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td>STAT 927</td>
<td>Bayesian Statistical Theory and Methods</td>
<td></td>
</tr>
<tr>
<td>STAT 931</td>
<td>Stochastic Processes</td>
<td></td>
</tr>
<tr>
<td>STAT 971</td>
<td>Introduction to Linear Statistical Models</td>
<td></td>
</tr>
<tr>
<td>STAT 972</td>
<td>Advanced Topics in Mathematical Statistics</td>
<td></td>
</tr>
</tbody>
</table>

First Year

**Fall**

Two Electives

**Spring**

Three Electives

Summer

Second-Year Paper

Second Year

First Year Paper

Fall

STAT 972 Advanced Topics in Mathematical Statistics

Two Electives

Spring

Three Electives

Second Year

Fall

Directed Study Course

Two Electives

Oral Exam/Thesis Proposal

Spring

Electives or Directed Study Units

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

2021-22 Catalog | Generated 08/18/21