STATISTICS, PHD

for the degree of Doctor of Philosophy in Statistics

Graduate Degree Programs in Statistics

- Statistics, MS (http://catalog.illinois.edu/graduate/las/statistics-ms/)
  - concentrations:
    - Analytics (http://catalog.illinois.edu/graduate/las/statistics-ms/analytics/)
    - Applied (http://catalog.illinois.edu/graduate/las/statistics-ms/applied/)
- Statistics, PhD (p. 1)
  - optional concentrations for the PhD:
    - Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)
    - Data Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/data-science-engineering/)
  - Graduate Minor in Statistics (http://catalog.illinois.edu/graduate/las/minors/statistics/)

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For additional details and requirements refer to the department's Graduate Programs (http://www.stat.illinois.edu/students/graduates.shtml/) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

Entering with an approved Baccalaureate degree

### PhD applied regression courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 527</td>
<td>Advanced Regression Analysis</td>
<td>4</td>
</tr>
<tr>
<td>STAT 528</td>
<td>Advanced Regression Analysis II</td>
<td>4</td>
</tr>
</tbody>
</table>

### PhD theory core courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 511</td>
<td>Advanced Mathematical Statistics</td>
<td>4</td>
</tr>
<tr>
<td>STAT 553</td>
<td>Probability and Measure I</td>
<td>4</td>
</tr>
<tr>
<td>STAT 575</td>
<td>Large Sample Theory</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Practicum course- Select one:

- STAT 427 Statistical Consulting
- STAT 593 STAT Internship
- STAT 595 Preparing Future Faculty

#### Computing-related course- Select one:

- STAT 525 Topics in Computational Statistics
- STAT 542 Statistical Learning

Approved substitutions for Computing: IE 521, IE 534, CS 573, CS 574, CS 583.

### Stochastic processes and time series courses- Select one:

- STAT 533 Advanced Stochastic Processes (Advanced Stochastic Processes)
- STAT 554 Probability and Measure II
- STAT 555/ MATH 564 Applied Stochastic Processes
- STAT 556 Advanced Time Series Analysis

### Entering with an approved Master's degree

#### PhD theory core course:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 553</td>
<td>Probability and Measure I</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Practicum course- Select one:

- STAT 427 Statistical Consulting
- STAT 593 STAT Internship
- STAT 595 Preparing Future Faculty

#### Computing-related course- Select one:

- STAT 525 Topics in Computational Statistics
- STAT 542 Statistical Learning

Approved substitutions for Computing: IE 521, IE 534, CS 573, CS 574, CS 583.

### Stochastic processes and time series courses- Select one:

- STAT 533 Advanced Stochastic Processes (Advanced Stochastic Processes)
- STAT 554 Probability and Measure II
- STAT 555/ MATH 564 Applied Stochastic Processes
- STAT 556 Advanced Time Series Analysis

#### Total Hours

- 96

Information listed in this catalog is current as of 10/2023
Other Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters Degree Required for Admission to PhD?</td>
<td>No, but Masters level requirements must be met (32 additional hours min)</td>
</tr>
</tbody>
</table>

For a student who has approved MS degree in Statistics or related fields from peer institutions, the total number of credits required is 64 (at least 64 residency credits). The MS degree needs to be approved by the PhD committee by Oct 1st of the first year of enrollment.

STAT 527/STAT 528/STAT 511/STAT can be waived for students who have approved MS degrees from peer institutions AND passed our qualifying exam

At least 36 required and elective course credits at UIUC (including satisfying the requirements on PhD applied regression, theory core, practicum, computing-related and stochastic process and time series courses, subject to waiver)

Minimum 500-level courses required 24

Qualifying Exam Required  Yes
Preliminary Exam Required Yes
Final Exam/Dissertation Defense Required Yes

Thesis research and individual study courses (min-max applied toward degree) 0-28 hours

Dissertation Deposit Required Yes
Minimum GPA: 3.0

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Statistics Ph.D. students will...

1. Have a solid foundation in Statistical Theory and Methodology;
2. Have a holistic understanding of data collection, management, processing, analysis and interpretation. Being proficient in the use of statistical software and writing statistical code;
3. Have experience in one or more application areas and work as a part of a collaborative team in analyzing real data and solving real-world problems;
4. Be able to conduct research either independently or collaboratively in a subarea of statistics and data science;
5. Be able to teach some elementary statistical courses independently.

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Statistics Department

Department Chair: Bo Li (https://stat.illinois.edu/directory/profile/libo/)
Associate Department Chair: Jeff Douglas (https://stat.illinois.edu/directory/profile/jeffdoug/)

PhD Program Director: Xiaofeng Shao (https://stat.illinois.edu/directory/profile/xshao/)
Department Contact: Aaron Thompson
Graduate Contact: Joseph Zarnsy (stat-grad@illinois.edu)
Statistics Department website (http://www.stat.illinois.edu/)
Computing Applications Building, 605 E Springfield Ave, Champaign, IL 61820
(217) 333-2167
Statistics email (stat-grad@illinois.edu)

College of Liberal Arts & Sciences

College of Liberal Arts & Sciences website (https://las.illinois.edu/)

Admissions

Statistics Department Admissions Info & Requirements (https://stat.illinois.edu/admissions/prospective-graduate-students/)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)

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