Statistics PhD

FOX SCHOOL OF BUSINESS AND MANAGEMENT

Learn more about the Doctor of Philosophy in Statistics.

About the Program

The general purpose of the graduate programs in Statistics is to provide statisticians with a broad base in the theories and methods of statistics toward successful application of statistical tools to immediate and specific problems that arise in virtually every area of societal and scientific endeavors. Admitted students pursue graduate study that is balanced appropriately between theory and methods. They are expected to gain experience in the application of statistics through research assistantships, statistical consulting, applications-oriented courses and/or through outside employment, including internships.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: The degree program is completed on a full-time basis.

Interdisciplinary Study: The program encourages interdisciplinary coursework, research and interactions among faculty and students with interests in business, biology and health sciences.

Areas of Specialization: Faculty members specialize and offer substantial coursework in the following areas:

• Applications of statistics to the law
• Asymptotic theory
• Bayesian inference/empirical Bayesian inference
• Causal inference
• Clinical trials
• Design of experiments
• Inequalities in statistics
• Linear and generalized linear models
• Methods in AIDS research and teratology
• Multiple comparisons
• Multivariate analysis
• Parametric and nonparametric inference
• Pharmaceutical statistics
• Quality control
• Ranking and selection
• Resampling methods
• Robust inference
• Statistical computing and graphics
• Sufficient dimension reduction
• Survey sampling
• Survival analysis
• Time series

Job Prospects: The program is dedicated to producing well-trained statisticians who work as researchers in academia, industry and government.

Non-Matriculated Student Policy: Qualified non-matriculated students are permitted to take doctoral courses.

Financing Opportunities: Typically, all PhD students receive financial assistantship in the form of full tuition remission and a stipend in return for offering services as a Research Assistant (RA) or Teaching Assistant (TA). The level of support is based on the concentration, the applicant’s qualifications and other competitive considerations. Students may also receive remuneration for conference travel, publications and academic achievement.
Admission Requirements and Deadlines

Application Deadline:

Fall:

• January 5 – Early Deadline for Fellowship Consideration
• March 1 – Final Deadline

Applications received after January 5 are reviewed on a rolling basis.

APPLY ONLINE to this Fox graduate program.

Letters of Reference:

Number Required: 2

From Whom: Letters of recommendation should be obtained from evaluators, typically college/university faculty or an immediate work supervisor, who can provide insight into your abilities and talents, as well as comment on your aptitude for graduate study.

Master’s Degree in Discipline/Related Discipline: A master’s degree is not required, but preferred.

Bachelor’s Degree in Discipline/Related Discipline: The equivalent of a four-year U.S. baccalaureate degree from an accredited university or college is required. For three-year degrees, mark sheets must be evaluated by WES or another NACES organization.

Statement of Goals: In 500 to 1,000 words, describe your specific interest in Temple’s program, research goals, career goals, and academic and research achievements.

Standardized Test Scores:

GRE: Required. Test results cannot be more than five years old. Although the applicant’s test score is an important factor in the admissions process, other factors, such as the ability to conduct research as demonstrated by academic research publications and whether your indicated research interests match with those of our faculty, are also taken into consideration.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master’s degree in a country where the language of instruction is English, must report scores for a standardized test of English that meet these minimums:

• TOEFL iBT: 90
• IELTS Academic: 7.0
• Duolingo: 110
• PTE Academic: 68

Resume: Current resume or CV required.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 48

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>STAT 8001</td>
<td>Probability and Statistics Theory I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8002</td>
<td>Probability and Statistics Theory II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8003</td>
<td>Statistical Methods and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>STAT 8004</td>
<td>Statistical Modeling and Inference</td>
<td>3</td>
</tr>
<tr>
<td>STAT 9001</td>
<td>Advanced Statistical Inference I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 9002</td>
<td>Advanced Statistical Inference II</td>
<td>3</td>
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Electives

Select eight from the following, with at least two courses taken at the 9000 level: 1

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>STAT 8031</td>
<td>Probability and Large Sample Theory</td>
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<tr>
<td>STAT 8101</td>
<td>Stochastic Processes</td>
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</tbody>
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### STAT 8102
High Dimensional Inference

### STAT 8103
Sampling Theory

### STAT 8104
Mathematics for Statistics

### STAT 8105
Univariate Time Series Analysis

### STAT 8106
Linear Models I

### STAT 8107
Design of Experiments I

### STAT 8108
Applied Multivariate Analysis I

### STAT 8114
Survival Analysis I

### STAT 8115
Nonparametric Methods

### STAT 8116
Categorical Data Analysis

### STAT 8117
Clinical Trials

### STAT 8121
Statistical Computing and Optimization

### STAT 8123
Time Series Analysis and Forecasting

### STAT 9101
Multivariate Time Series Analysis

### STAT 9103
Stat Lrng & Data Mining

### STAT 9106
Linear Models II

### STAT 9107
Design of Experiments II

### STAT 9108
Multivariate Analysis II

### STAT 9114
Survival Analysis II

### STAT 9116
Statistical Genetics: An Advanced Graduate Course

### STAT 9180
Seminar in New Topics in Statistics

### STAT 9190
Seminar in New Topics in Statistics

#### Research Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>STAT 9994</td>
<td>Preliminary Examination Preparation</td>
</tr>
<tr>
<td>STAT 9998</td>
<td>Pre-Dissertation Research</td>
</tr>
<tr>
<td>STAT 9999</td>
<td>Dissertation Research</td>
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</tbody>
</table>

#### Total Credit Hours

| Total Credit Hours | 48 |

1 With prior approval from the Director of Graduate Programs in Statistical Science, students may select electives outside of Statistics.

2 A minimum of 2 credits of STAT 9999 must be taken. The remaining 4 credits may be earned in any combination of STAT 9994, STAT 9998 and/or STAT 9999.

### Additional Requirement: Completion of a Summer research paper is required.

#### Culminating Events:

##### Statistics Competency Examination:
An assessment of students' proficiency in statistical theory and methodology is made at the end of their first year in the program with an exam offered in June. Students who fail the statistics competency examination on the first attempt must sit for reexamination prior to the Fall term of their second year. A second failure results in dismissal from the University. No third attempt is allowed.

##### Preliminary Examination:
The purpose of the preliminary examination is to demonstrate critical and interpretive knowledge of current research. The subject areas are determined, in advance, by the faculty of the department. The preliminary exam should be completed no more than one term after the student completes the coursework component of the program. Students who are preparing to write their preliminary examinations should confirm a time and date with their departmental advisor.

The members of the student's department write the questions for the preliminary exam. The student must answer every question on the examination in order to be evaluated by the Department Committee. The evaluators look for a breadth and depth of understanding of specific research areas, a critical application of that knowledge to specific phenomena, and an ability to write technical prose. Each member votes to pass or fail the student. In order to pass, a majority of the committee members must agree that the exam has been satisfactorily completed.

##### Proposal:
The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the context and background surrounding a particular research problem, an exhaustive survey and review of literature related to the problem, and a detailed methodological plan for investigating the problem.
The proposal should be completed and approved no more than one year after completing coursework. Upon approval, a timeline for completing the investigation and writing process is established.

Dissertation:
The doctoral dissertation is an original empirical study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student’s knowledge of both research methods and a mastery of their primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standard of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Doctoral Advisory Committee is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from the student's department. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of their academic progress.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense, including the student's ability to express verbally their research question, methodological approach, primary findings and implications. The Dissertation Examining Committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation. This committee is comprised of the Doctoral Advisory Committee and at least one additional faculty member from outside the department.

If any member decides to withdraw from the committee, the student shall notify the Chair of the Dissertation Examining Committee and the Director of Graduate Programs in Statistical Science. The student, in consultation with the Chair, is responsible for finding a replacement. Inability to find a replacement shall constitute evidence that the student is unable to complete the dissertation. In such a case, the student may petition the Director of Graduate Programs in Statistical Science for a review. Once review of the facts and circumstances is completed, the Director rules on the student's progress. If the Director rules that the student is not capable of completing the dissertation, the student is dismissed from the program. This decision may be appealed to the Senior Associate Dean. If dismissed, the student may appeal to the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date and room within two working days, and forwards to the student the appropriate forms. After the Graduate Secretary has scheduled the defense, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TPortal under the Tools tab within "University Forms," at least 10 days before the defense. The department posts flyers announcing the defense, and the Graduate School announces the defense on its website.

Contacts

Program Web Address:
https://www.temple.edu/academics/degree-programs/statistics-phd-bu-stat-phd

Department Information:
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1801 Liacouras Walk
701 Alter Hall (006-22)
Philadelphia, PA 19122
foxinfo@temple.edu
215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:
https://apply.temple.edu/FOX/Account/Login

Department Contacts:

Admissions:
Fox PhD Admissions
foxphdo@temple.edu

Dept. of Statistics, Operations and Data Science:
Samar Khan
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