

# Statistics PhD

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## FOX SCHOOL OF BUSINESS AND MANAGEMENT

Learn more about the Doctor of Philosophy in Statistics.

The Ph.D. program in Statistics offers advanced education for aspiring researchers, preparing them for roles in academia, industry, and diverse cutting-edge research environments. The curriculum includes rigorous components covering foundational statistical theories, methodologies, and applications. With a focus on fostering innovative research contributions and encouraging interdisciplinary collaboration, the program aims to cultivate well-rounded scholars. Professional development is a pivotal aspect of the program, integrating teaching experiences, conference participation, and workshops to enhance communication and networking skills. Graduates emerge prepared for diverse career paths, excelling in academia, industry, and research institutions. They make significant contributions to the advancement of statistical knowledge and its practical applications.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** The degree program is primarily designed for full-time completion. However, part-time status may be considered on a case-by-case basis. Interested applicants should contact the Director of the PhD program for more information.

**Interdisciplinary Study:** The program encourages interdisciplinary engagement by promoting research and collaborations among faculty and students with diverse interests.

**Areas of Specialization:** : Faculty members specialize in and offer substantial expertise across various areas of statistics and data science, including:

- Applied statistics in the social sciences, tech, finance, and sports analytics
- Asymptotic theory
- Bayesian inference/empirical Bayesian inference
- Causal inference
- Clinical trials
- Design and analysis of experiments and observational studies in complex settings
- Functional data analysis
- High-dimensional data analysis
- Methodology for the analysis of network data
- Financial statistics and econometrics
- Longitudinal and dependent data analysis
- Multiple comparisons
- Pharmaceutical statistics
- Sufficient dimension reduction
- Survey sampling
- Survival analysis
- Time series

**Job Prospects:** The program is committed to cultivating proficient statisticians for roles in academia, industry, and government.

**Non-Matriculated Student Policy:** Qualified non-matriculated students are permitted to take the courses of the program.

**Financing Opportunities:** Financial support is provided to competitive full-time Ph.D. students in the form of eligible tuition remission, benefits, and a stipend for their roles as Graduate Assistants. Financial support is awarded based on the applicant's qualifications and other competitive considerations. Students may receive additional resources for conference travel, publications, and for achieving exceptional academic accomplishments.

## Admission Requirements and Deadlines

### Application Deadline:

*Fall:*

*Applications must be submitted AND complete (i.e., all required materials must be received and verified by Fox Staff) by Dec. 5 to be considered. Applications received after this deadline are reviewed on a case-by-case basis and dependent on availability.*

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, an evaluation of mark sheets may be required by WES or another NACES organization.

**Statement of Goals:** Essay prompts can be found in the online application portal for Business Administration PhD applicants.

**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 outside of the United States must report scores for standardized test of English that meet the minimums below. Exceptions are made for applicants who have subsequently earned a baccalaureate or masters degree from the approved list of countries provided by the Graduate School.

- 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:*

Code	Title	Credit Hours
<b>Core Courses</b>		
STAT 8001	Probability and Statistics Theory I	3
STAT 8002	Probability and Statistics Theory II	3
STAT 8003	Statistical Methods and Concepts	3
STAT 8004	Statistical Modeling and Inference	3
STAT 9001	Advanced Statistical Inference I	3
STAT 9002	Advanced Statistical Inference II	3
<b>Electives</b>		
Select eight from the following, with at least two courses taken at the 9000 level: <sup>1</sup>		24
STAT 8031		
STAT 8101	Stochastic Processes	
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	
<b>Research Courses <sup>2</sup></b>		<b>6</b>
STAT 9994	Preliminary Examination Preparation	
STAT 9998	Pre-Dissertation Research	
STAT 9999	Dissertation Research	
<b>Total Credit Hours</b>		<b>48</b>

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

<sup>2</sup> 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 TUportal 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:

Fox School of Business and Management  
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://connect.temple.edu/portal/gr\\_applytoday](https://connect.temple.edu/portal/gr_applytoday)

### Department Contacts:

#### *Admissions:*

Fox PhD Admissions  
foxphdo@temple.edu

#### *Graduate Program Director:*

Dr. Chengyong Tang  
yongtang@temple.edu  
215-204-3191