

STATISTICS (PHD)

Graduate School

Program Website (<https://stat.cornell.edu/academics/phd/>)

CIP: 27.0501 | HEGIS: 1702.00 | NYSED: 17150

Graduate Field

Statistics (<https://catalog.cornell.edu/graduate-school/statistics/>)

Program Description

The Ph.D. program is intended to prepare students for a career in research and teaching at the University level or in equivalent positions in industry or government. A Ph.D. degree requires writing and defending a dissertation. Students graduate this program with a broad set of skills, from the ability to interact collaboratively with researchers in applied fields, through the formulation and computational implementation of novel statistical models and methods to demonstrating mathematically that these methods have desirable statistical properties. Cornell's Ph.D. alumni have gone on to high profile positions in all of academia, industry and government.

Statistics does not offer admission for those interested a terminal master's degree, but we do offer admission for those interested in pursuing a master's leading to a Ph.D.

Concentrations

- Biometry
- Decision theory
- Econometrics
- Engineering statistics
- Experimental design
- Mathematical statistics
- Probability
- Sampling
- Social statistics
- Statistical computing
- Stochastic processes

Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY

Program Requirements

- Minimum Semesters for Degree: 5

Graduate School Milestones

- Responsible Conduct of Research Training: Required
- Open Researcher and Contributor ID (ORCID): Required
- Student Progress Reviews (SPR) begin: Second Year
- Examination for admission to candidacy (A Exam): Third Year
- Defense of Dissertation (B Exam): No earlier than one month before the completion of the minimum registration requirement

Field Specific Milestones

- First Year Evaluation conducted at the end of the first year
- Qualifying Examination (Q Exam): May be required as a result of the student's First Year Evaluation
- A non-thesis Masters Degree in Statistics may be awarded to students who have passed their A-Exam on the recommendation of the Special Committee

Course Requirements

Additional course requirements may be set by the student's Special Committee. Program specific requirements that apply to all students are included below.

- If students have already completed some of the required coursework elsewhere then they will not need to repeat those courses, though this should be discussed with the Director of Graduate Studies and/or special committee chair.

Year 1 (Fall)

- MATH 6710 Probability Theory I
- STSCI 7170 Theory of Linear Models

Year 1 (Spring)

- MATH 6720 Probability Theory II or STSCI 6750 Probability II for Statistics
- STSCI 6730 Mathematical Statistics I

Year 2 (Fall)

- MATH 6740 Mathematical Statistics II

Other Required Courses

- STSCI 6520 Statistical Computing I (Taken in first or second year)
- STSCI 7180 Generalized Linear Models (Taken in first or second year)
- BTRY 7950 Statistical Consulting (Taken in second or third year)
- BTRY 7951 (Taken in second or third year)
- 4 or 5 elective courses determined by the student's special committee, taken in the second through fourth year

University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

Non-academic Requirements

Conduct Matters. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a

degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

Financial Obligations. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

Learning Outcomes

Upon completion of the Ph.D. degree, students will have

- Demonstrated mastery of statistical theory and methods;
- Achieved breadth and diversity of knowledge through elective coursework and research/teaching experiences;
- Demonstrated the ability to work collaboratively across disciplines, communicating statistical principles, methods and results to a lay audience;
- Demonstrated a high level of proficiency in oral and written communication skills appropriate for a career in either (i) advanced research and/or teaching at a college or university; or, (ii) advanced research in government and industry;
- Demonstrated the ability to independently conduct, document and defend original research contributions having the potential to advance the field of statistical science.