



# Cornell Bowers

## Statistics + Data Science

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Field Manual: Graduate Field of Statistics | Cornell University

## Overview and Graduate School Requirements

### 1.1 Overview of the PhD Statistics Program

This manual shall govern all matters relating to the Graduate Field of Statistics at Cornell University. Cornell's Ph.D. in Statistics prepares future leaders in statistical research and innovation. Students develop comprehensive expertise in creating and implementing novel statistical methods, proving mathematical properties of statistical approaches, collaborating with researchers across disciplines, and solving complex real-world

problems. Our graduates excel in academia, industry, and government, combining theoretical depth with practical application.

At Cornell, graduate work is organized as [fields](#), each with a Director of Graduate Studies. Fields of Study typically have faculty from many departments within the University that have common academic and research interests. The department comprises faculty whose primary area is Statistics.

Statistics uniquely bridges theory, application, and computation. Our field demands mastery of statistical theory, research design, data analysis, and mathematical principles, alongside strong communication skills.

The ideal candidate is passionate about statistics and eager to translate complex problems into statistical frameworks while effectively collaborating across disciplines. If you're driven by statistical thinking and its real-world impact, the Field of Statistics offers the rigorous training you seek.

During the first semester, students are required to complete [Cornell's Responsible Conduct in Research Online Training](#) and register with [ORCID](#).

Students are required to take two [examinations](#): a comprehensive admission to candidacy examination (the A exam) and a final examination after completion of the dissertation (the B exam). Students must complete a [dissertation](#).

## 1.2 Administrative Authority

The following officials shall have primary oversight:

Director of Graduate Studies (DGS): Yang Ning ([yn265@cornell.edu](mailto:yn265@cornell.edu))

Department Chair: James Booth ([jim.booth@cornell.edu](mailto:jim.booth@cornell.edu))

Graduate Field Coordinator: Allen Ward ([aw269@cornell.edu](mailto:aw269@cornell.edu))

## 1.3 Program Structure

a) The Graduate Field of Statistics encompasses [two distinct programs](#):

1. Statistics MS/PhD Program
2. Applied Statistics Master of Professional Studies (MPS Program)

b) Each program shall maintain separate administrative oversight.

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

The PhD 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 PhD degree requires writing and defending a dissertation. Students graduate from 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 demonstrate mathematically that these methods have desirable statistical properties. Cornell's PhD alumni have gone on to high profile positions in academia, industry and government.

## ENROLLMENT AND REGISTRATION

### 2.1 Registration Requirements

- a) Students MUST complete six (6) semesters of full-time registration prior to B-Exam
- b) Of these, two (2) semesters MUST occur after passing A-Exam
- c) For non-thesis master's degree: minimum four (4) semesters full-time registration required
- d) Failure to maintain registration will result in loss of active student status

The student is responsible for all [Graduate School](#) requirements whether listed here or not. Please review the [Code of Legislation of the Graduate Faculty](#) for a thorough overview of policies regarding graduate studies at Cornell. The Statistics and Data Science Ph.D. program complies with the requirements of the Cornell Graduate School, which include requirements on residency, minimum grades, examinations, and dissertation. All students are required to meet academic milestones on time.

In extreme circumstances students may petition to extend the time to meet a specific milestone. Students should not expect petitions to be approved and should only use a petition as the last resort. Petitions are considered on a case-by-case basis and must have the approval of the entire committee and the DGS before they are submitted to the Graduate School Dean for final consideration. Petition forms are on line and can be found on the [forms page](#) on the Graduate Schools website. The full explanation about the process can be found in the [Code of Legislation](#) of the Graduate Faculty.

Students who are coming up on a milestone deadline will receive notices from the

Graduate School approximately 2 months prior to the due date of the milestone. Students should not wait for these notices, instead it is expected they will be proactive with completing milestones on time.

Student progression toward an advanced degree is determined not only by the quality of work completed (through faculty evaluations and formal exams), but also the length of time spent in the pursuit of the degree. For research degrees, the Graduate School measures this progress in terms of registered semesters. Ph.D. candidates are required to obtain a minimum of six registered semesters. Two of these six semesters are required after the A exam.

The special committee chair shall provide qualitative feedback on student progress, from the first year through the completion of the degree, using the [Student Progress Review \(SPR\) form](#). Students, in consultation with the committee chair, are required to complete a self-assessment, reflect on progress towards established academic goals, report on professional development activities, and identify future plans and timeline. The SPR will be completed by Statistics Ph.D. students sometime in the spring semester, each year, of their graduate career.

All requirements for the doctoral degree must be completed within seven years of the first registration in the Graduate School (see [Time-to-Degree Limits policy](#)).

A Ph.D. student may [petition](#) to have study in another graduate degree program at Cornell or study in other graduate schools counted toward the registration requirement. Upon recommendation of the special committee and approval of the Dean, a maximum of two semesters of advanced standing towards the Ph.D. requirements may be awarded for a master's degree completed at Cornell or at another university. Requests will not be formally considered until the student is registered as a Ph.D. student in the Graduate School.

## 2.2 Full-Time Status Definition

A student shall be considered full-time when:

- a) Registered and enrolled in courses, OR
- b) Engaged in thesis/dissertation work

## 2.3 GRADUATE SCHOOL PH.D. REQUIREMENTS

- [Maintaining registration status](#)
- [Formation of a special committee](#)
- [Completion of Responsible Conduct of Research \(RCR\) training](#)
- [Completion of the Student Progress Review \(SPR\)](#)
- [Timely completion of A and B exams](#)
- [Submission of the dissertation](#)

## 2.4 UNIVERSITY REGISTRATION

In order to be considered a registered student by the university, a student must:

1. Settle all financial accounts, including current semester tuition.
2. Clear any holds, whether these are from the Bursar's Office, Cornell Health, the Judicial Administrator, or the Graduate School; and
3. Satisfy New York state health requirements.

Enrollment in courses does not constitute or imply university registration.

## 2.5 CHECKING YOUR REGISTRATION STATUS

Students can check their registration status at the beginning of the semester using Student Essentials. If you are registered, your registration status will state "Registered" with a green checkmark. The absence of a green checkmark means there is a hold preventing your registration.

There are several different types of holds – some are informational and must be completed for graduation, and some are immediate and prevent current semester registration. Your holds are listed at the top right of the page. Click on "more information" for complete details including steps to resolve a hold.

Students who are not registered by the deadline risk being withdrawn from the university. When withdrawn, they will be dropped from classes, and services such as (but not limited to) library access, housing, dining, building access, Canvas, and bus service will be terminated. Any funding such as fellowships, TA or GRA appointments will be terminated, and potentially a student may be asked to repay back part of their stipend.

## 2.6 CHANGING YOUR REGISTRATION STATUS

You must submit a form if you wish to withdraw, take a leave of absence, or otherwise cease to be registered. All Graduate School forms are located on the Graduate School's [website](#) along with the deadlines and procedures to submit each form.

## 2.7 NON-REGISTERED STATUS

Non-registered status means a student has not met the requirements for registration or is on a leave of absence or withdrawn.

## 2.8 SUMMER REGISTRATION & FUNDING

a) Summer registration is NOT required unless:

1. Student receives assistantship or support requiring it
2. Student requires access to campus facilities

b) Summer registration procedure:

1. Enroll in GRAD 9016
2. No tuition cost applies
3. Section selection is discretionary

Students must register for the summer session if, during the summer, they will receive financial aid, fellowships, loans, assistantships, travel grants, or tuition awards. You also must register in order to use campus facilities during the summer. If you are not on campus, but meet any of the previous conditions, you must register for the summer.

Summer registration is granted to all students who enroll in a non-credit summer graduate research course through their Student Center. Enrollment opens in mid-April. There is no tuition charge for summer registration and enrollment in the graduate research course, although students requesting a registration unit for summer study do pay tuition.

### **SUMMER FUNDING POLICIES**

Summer research funding will be provided through various funding sources (external funding, department or university fellowships, internships, teaching, and research assistantships). We encourage you to discuss the summer funding opportunity available during the Spring Semester. If you need help identifying such an opportunity, please alert the GFA and DGS before March 31st of each year so we can help identify these opportunities. [Summer stipend rates](#) are set by the graduate school.

- Students with partial TA appointments may receive supplemental department university fellowship support
- Students with full GRA funding cannot receive additional department university fellowship funds or TA/RA funding
- Students must be in good academic standing and making degree progress over the summer

#### **IMPORTANT ELIGIBILITY NOTES:**

- Students pursuing internships are not eligible for department university fellowship summer funding or TA/GRA/RA funding
- Students on an internship or taking a summer break:
  - Must confirm this in writing
  - Will not be eligible for summer department university fellowship funding
  - Will not enroll in Research Course (GRAD 9016) during the summer break period unless access to campus facilities is required

## SPECIAL COMMITTEES

### 3.1 Committee Formation Requirements

- Doctoral students **MUST** have minimum three (3) members
- Chair **MUST** be selected by week 3 of first semester, which can be the DGS
- Full committee **MUST** be formed by end of third semester
- Failure to meet these deadlines may result in academic hold

Students may change their advisor up until the time they have taken the A exam. After this time, an advisor and/or committee change will require a petition submitted to the Graduate School Dean. All newly admitted students must officially nominate their Chairperson no later than September 1 of their first year.

### 3.2 Committee Composition

- Chair shall serve as primary advisor and thesis/dissertation supervisor
- Minimum two (2) members must be general graduate faculty

c) Additional members may be drawn from any graduate faculty

d) DGS may serve as temporary chair until permanent chair is selected

The student's committee may require the student to take courses in addition to the core requirements. This requirement should be discussed with each faculty member prior to them being nominated to the student's committee.

To choose or change an advisor or committee member, students must submit a request online from the "Advisor" section of their [Student Center](#) prior to completing the A exam. After the A exam has been taken, all changes must be made by petition.

Any member, including the chair, may resign at any time from a special committee. It is the students' responsibility to reconstitute their special committee. Failure to reconstitute a committee will result in withdrawal from the University.

### **Special Committee Composition**

- Every PhD committee must include **at least three members**:
  - **Chair** representing the major subject.
  - **Two members** representing minor subjects. One could serve as a Co-Chair.

### **Membership Requirements**

- At least **two members must be general members of the graduate faculty** (not divisional or minor).
- **Minor field members** may serve on PhD committees but **cannot chair them**.
- A student may have:
  - A Chair and two minor members, **or**
  - A Chair, a Co-Chair, and one minor member (plus additional members if needed).

### **Interpretation**

- Minor subject members represent concentrations that appear on the student's transcript, not an official minor degree.
- Minor field members are eligible to serve as minor subject members but cannot act as the adviser.

### 3.3 Major Subject Concentrations

The following concentrations are authorized:

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

## DEGREE REQUIREMENTS

### 4.1 Required Coursework

Students MUST complete the following courses:

a) First Year, Fall:

- STSCI 7170 - Theory of Linear Models
- STSCI 6520 - Statistical Computing I
- MATH 6710 - Probability I

b) First Year, Spring:

- STSCI 6730 – Mathematical Statistics I

- STSCI 6750 – Probability II for Statistics (or MATH 6720)

c) Second Year:

- MATH 7740 - Statistical Learning Theory

(Replaces MATH 6740 – Mathematical Statistics II)

### **Electives**

- STSCI 6780 – Bayesian Statistics and Data Analysis

- STSCI 6940 - Robust Causal Inference with ML

- STSCI 6521 – Statistical Computing II

## **4.2 Additional Requirements**

a) Qualifying Examination (Q-Exam):

1. May be required after first year assessment

2. If required, student must complete 4-5 additional elective courses

b) Elective Courses:

1. 4-5 courses required

2. Must be approved by special committee chair

3. Typically completed in years 2-4

## **4.3 Examinations**

a) A-Exam (Admission to Candidacy):

1. May be taken after two semesters

2. Must be attempted before year 4

3. Passing grants doctoral candidacy status

b) B-Exam (Final Examination):

1. Minimum one-month waiting period after all requirements met

2. Two semesters minimum between A-Exam and B-Exam

#### c) Examination Scheduling:

1. One-week advance notice required
2. Must submit title, abstract, date, time, location
3. Submit via [Graduate School forms website](#)

## 4.4 EXAMS REQUIRED TO COMPLETE THE PH.D. DEGREE

### 4.5 EXAMINATION FOR ADMISSION TO CANDIDACY (A - EXAM)

The A exam tests the student's breadth in Statistics and Data Science and depth in their proposed thesis area.

The committee must be selected before the A exam can take place. Students generally take the A exam after completing their coursework and at a point where they've outlined their research and have some preliminary results. The committee members will discuss with the student the format of the exam, and will outline what is expected. This will happen well in advance of the actual scheduling process.

Normally, the A exam is taken in the third year of the Ph.D. program. By Graduate School rules, the A exam may not be taken before two semesters of registration as a doctoral student (i.e., beyond the Master's), but it must be taken before the student begins the seventh semester of registration. Students must petition the Graduate School Dean at least 3 months prior to the exam deadline if they cannot meet this milestone.

### 4.6 SCHEDULING THE A EXAM

All students must submit a 'Schedule A Examination and Research Compliance' form online no later than 12 days prior to the date of the exam. Graduate School rules require that the A exam be announced no later than 7 days prior to the date of the exam and open to all members of the Field Faculty. Students may invite students to their exam, but this is not mandatory. If a student wishes to invite current students to their exam they are responsible for sending the invitation prior to the exam date.

Students should alert the GFA as soon as they and their committee have decided on a date and time of the exam.

The GFA will require the following information to be included in the announcement that is sent to the field:

- The title of the dissertation
- Short Abstract
- Zoom link for the exam
- Format the exam will follow
  - o Broad-audience talk then questions
  - o Questioning of submitted materials
  - o Other, please explain

The department support team can assist students in reserving a room for the exam to take place on the Ithaca campus. Students can also book spaces using [Scheduling@Cornell](mailto:Scheduling@Cornell). Virtual exams are acceptable without a petition to the Graduate School. If the exam is fully online via Zoom no room will be necessary.

To be inclusive of all, a Zoom link is required for all exams. So that all faculty and students may attend the exam regardless of location. Students should be prepared to start the Zoom meeting prior to starting their exam.

## RESULTS OF THE EXAM

After the exam is completed the student will initiate the A exam results form online. All members of the committee need to agree to the results and electronically sign off on the results form no later than 3 days after the date of the exam. The Statistics and Data Science Field may award a non-thesis Masters upon passing the A exam. This should be noted on the results form by the Chairperson when they sign off on the form. If this is the case, students will have the non-thesis master's degree conferred on the following conferral date in either May, August, or December, and receive a diploma.

### 4.7 DISSERTATION DEFENSE (B EXAM)

The B exam is an oral defense of your thesis or dissertation. This exam can be taken after completing all degree requirements, but not earlier than one month before completing the minimum registered semester requirements. At least two semesters of successful registration must be completed between the passing of the A exam and the scheduling of the B exam.

The B exam is to be scheduled at least 12 calendar days in advance via the ['Schedule B Examination' form](#). Announcing the exam to the field and the cohort is the same as the A exam. Zoom links and announcement requirements also are the same as the A exam.

During the examination, graduate faculty other than the Special Committee may question the candidate. Determination of whether the student passes or fails and provisions for re-examination are the same as for the A exam.

A student must complete two semesters of registration between the A exam and the B exam; thus, the B exam will normally take place one to two years after the A exam. All requirements for the Ph.D. degree, including filing the dissertation, are expected to be completed within five years after the student completes the required six total registered semesters, or seven years after the first registration in the Graduate School, whichever is sooner (see [Time-to-Degree Limits policy](#)).

## 4.8 DISSERTATION

Candidates for the doctoral degree must complete a dissertation.

A Ph.D. student shall submit a dissertation proposal to his/her Special Committee. This proposal must be approved by the Special Committee after discussion at a committee meeting. The proposal will include no less than a statement of the research question or questions, a brief review of the relevant literature, and a plan of research for answering the research question. The B Exam may not occur less than three months after the proposal has been approved by the Special Committee.

A complete draft of the dissertation should be given to each Special Committee member at least six weeks before the final examination. At least five business days prior to the examination, each member should receive a copy of the dissertation, to be retained until the examination. Normally, the student can expect to revise the dissertation after successful completion of the B Exam.

The finished dissertation must conform to the format requirements for a doctoral dissertation listed on the [Graduate School's website](#). All dissertations are submitted online following the Graduate School's protocols.

## FUNDING AND SUPPORT

### 5.1 Guaranteed Funding

a) PhD students receive 5-year funding guarantee if:

1. Maintain good academic standing
2. Make sufficient academic/research progress

b) Funding sources may include:

1. Teaching assistantships
2. Research assistantships
3. External fellowships
4. Cornell fellowships

## 5.2 Full Academic year support

Full academic year support is defined as:

a) Full Tuition

b) Health insurance - [Cornell's Student Health Plan \(SHP\)](#) provides platinum-level health insurance coverage to undergraduate, graduate, professional, and medical students, and their dependents (vision and dental are not included).

c) Full semester [Stipend Rates](#) are determined by the graduate school)

Being in good standing is defined as:

- Making satisfactory progress towards your degree as determined during the SPR review meeting held during the spring or summer term.
- Being current with all Graduate School milestones
- Having no Judicial or Misconduct issues

Appointment periods for assistantships:

- Fall: Aug 21 – Jan 5
- Spring: Jan 6 – May 20
- Summer\*: May 21 – Aug 20

\*The department does not guarantee summer support for any student, this is dependent upon the student's advisor. The majority of our students have outside internships over the summer to cover summer funding. In rare cases the Summer Session Office has openings for summer TA or instructor positions. Students who wish to teach a summer course

should contact that office for open positions.

## SUPPORT LETTERS

Students who are appointed as a GRA or TA will receive a letter of support at the beginning of each term. These letters are housed in the [WorkDay](#) system and are stored for the entire duration of the student's career at Cornell. Students are required to accept the position in the WorkDay system before starting their assignment. Students should review [Cornell Policy 1.3](#) to familiarize themselves with the University policy, approved holidays, approved vacation and sick time, and procedures for conflict resolution.

## FACILITIES AND SERVICES

### 6.1 Office Locations

a) Computing and Information Science Building, 127 Hoy Road, Ithaca, NY 14853

1. Primary PhD student offices (3rd floor, 325, 329, 333, 345)
2. Breakout offices (3rd floor, 321A, 325A, 329A, 347, 349)
3. Kitchen facilities
4. Printing/scanning services

### 6.2 IT Services

- a) All IT requests must be submitted to: [itcoecis-help@cornell.edu](mailto:itcoecis-help@cornell.edu)
- b) Printer access requires ITSG setup

### 6.3 Parking

- a) Vehicle registration required at [Transportation Services](#)
- b) Location: 116 Maple Avenue
- c) Contact: 607-255-4600

## STUDENT WELFARE AND SUPPORT

## DIVERSITY AND INCLUSION

The department of Statistics and Data Science promotes the cultural climate that celebrates diversity, equity, inclusion, and belonging for all people. We have a centralized office, [Cornell Bowers CIS Office of Diversity, Equity, Inclusion, and Belonging](#) that we work together towards these goals. All members of the department are tasked with being proactive to be inclusive to their peers, faculty, students, and staff in academic and social events both within and outside the community

## CAMPUS CODE OF CONDUCT

All students are responsible for following the expectations of the [Code of Conduct](#). Students should familiarize themselves with this code, as violations may have serious consequences.

## RESOURCES OUTSIDE OF THE DEPARTMENT OR COLLEGE:

- [Bias Reporting Form](#)
- [Cornell Office of Civil Rights - Title IX](#) at [titleix@cornell.edu](mailto:titleix@cornell.edu)

### 7.1 Statistics Graduate Society (SGS)

a) Student-run organization

b) Provides:

1. Speaker series
2. Discussion groups
3. Networking events
4. Social activities

### 7.2 Progress Review

a) Annual Student Progress Review (SPR) required for:

1. All doctoral students' year 2 and beyond
2. Regardless of graduation timeline

### 7.3 Health Services

a) Cornell Health:

1. Location: 110 Ho Plaza

2. Website: [health.cornell.edu](http://health.cornell.edu)

3. Phone: 607-255-5155

b) Emergency Services:

1. Cornell Police: 607-255-1111

2. Cayuga Medical Center: 607-274-4411

3. WellNow Urgent Care: 607-319-4563

## 7.4 DIRECT DEPOSIT

It is advisable for all students to set up direct deposits for both refunds and payroll, these are two separate actions.

- [Bursar Direct Deposit](#) (refunds and fellowships)
- [Payroll Direct Deposit](#) (GRA and TA appointments)

## 7.5 TAXES

At the graduate level, all fellowship and assistantship stipends are considered taxable income by the

Internal Revenue Service and by New York State.

- [Tax Information](#)
- [Understanding the 1098-T Form](#)

Other Resources and information regarding tuition rates, assistantships, fellowships, loans, travel funding, stipend rates etc., can be found on the [Graduate School's website](#). A student's bill is ultimately their responsibility. It is the sole responsibility for each student to check their Bursar account and contact either the Bursar or the GFA if there are anomalies. It is strongly recommended that each student check their Bursar account monthly.

## 7.6 TRAVEL FUNDING

There are several opportunities for students to apply for funding to enhance their research. Students are encouraged to take advantage of these opportunities, and to work with their advisor for help with travel costs associated with professional conferences, and research travel.

- [Application for Statistics PhD Travel Funding Request](#)

- [Graduate School Conference Grant](#)
- [Graduate School Research Travel Grant](#)

## 7.7 INTERNATIONAL STUDENTS

[The International Services Office of Global Learning](#) is the main resource for all International Students to get advice about maintaining their visa status, employment and tax questions, life at Cornell, and travel. Maintaining visa status while enrolled at the University is ultimately the student's responsibility.

This manual supersedes all other versions and shall be binding upon all graduate students in the Field of Statistics at Cornell University.