STATISTICS, PHD

Degree: Doctor of Philosophy (PhD)
Field of Study: Statistics

The Statistics PhD program will begin admitting students in Fall 2025.

Program Overview

A student must satisfy all of the general requirements of the School of Graduate Studies as well as the more specific requirements of the department to earn a doctoral degree. Each graduate student is assigned an initial academic advisor upon matriculation. The academic advisor's primary responsibility is to help the student plan an appropriate and sufficiently broad program of coursework and study that will satisfy both the degree requirements and the special interests of the student. With the aid of the academic advisor, each student must present a study plan indicating how they intend to satisfy the requirements for a graduate degree. At the appropriate time, PhD students are also required to form a thesis advising committee, including a permanent research advisor, in order to draft a syllabus for and schedule an area exam.

The doctorate is conferred not merely upon completion of a stipulated course of study, but rather upon clear demonstration of scholarly attainment and capability of original research work in statistics.

In addition to the doctoral coursework, all PhD students must complete the following specific requirements:

Qualifying Exams

Each student will be required to take two written qualifying exams in theoretical statistics and applied statistical modeling. Syllabi for the exams are available to students. Exams will be offered twice a year, usually in January and May. Students may attempt each exam up to two times. Under normal circumstances, students are expected to have passed both exams by the end of their fifth semester. There are three ratings of the exam: (1) Pass at the Ph.D. level; (2) Pass at the M.S. level; (3) Fail. Students who fail to pass at the Ph.D. level after two attempts will be given the opportunity to obtain an M.S. degree provided the student passes both exams at the M.S. level.

Area Exam

Each student will be required to pass an oral area examination showing knowledge of the background and literature in the chosen area of specialization. The exam will be administered by the student's advising committee, chaired by the research advisor. The exam should normally take place within one year after final passage of the qualifying examinations at the PhD level and at least one year before the defense takes place. A student may retake the area exam once.

A written syllabus, with a list of the papers for which the student will be responsible, should be prepared and agreed upon by the student and advising committee at least two months before the exam takes place, at which time a specific date and time for the exam should be decided. Both the syllabus and the scheduled date of the exam should then be reported to the graduate committee. The student is required to submit to the advising committee a written report on the predetermined research topic at least two weeks before the exam date. Once the syllabus and exam date have been reported to the graduate committee, the student will advance to PhD candidacy.

Yearly Progress Reports

After passing the area exam, students will present yearly progress reports to their advising committees, usually in April. These reports will consist of a written summary of progress delivered to the advising committee.

Dissertation, Expository Talk, and Defense

Students are required to produce a written dissertation and present an oral defense. The dissertation is expected to constitute an original contribution to statistical knowledge. It must be provided to the defense committee (the composition of which is discussed below) at least 10 days prior to the defense. Students are required to give a colloquium-level presentation of their thesis work, open to all students and faculty, followed by an oral defense of the thesis work to the defense committee. The committee consists of at least four faculty members, including the student's research advisor and at least one outside faculty member.

Deadlines for the thesis defense and approval of the dissertation are determined by the School of Graduate Studies. It is the student's responsibility to be aware of deadlines and make sure they are met.

Petitions

Any exceptions to departmental regulations or requirements must have the formal approval of the department's graduate committee. Such exceptions are to be sought by a written petition, approved by the student's advisory committee or research advisor, to the graduate committee.

Any exception to university rules and regulations must be approved by the dean of graduate studies. Such exceptions are to be sought by presenting a written petition to the graduate committee for departmental endorsement and approval prior to forwarding the petition to the dean.

PhD Policies

For PhD policies and procedures, please review the School of Graduate Studies section of the General Bulletin.

Program Requirements

A student in the statistics program must demonstrate knowledge of the theoretical foundations of statistics and a wide range of statistical modeling and computational methodology. This includes taking qualifying examinations in the areas of theoretical statistics and applied statistical modeling, and taking certain courses in these areas, as specified below. Statistics PhD students must take 36 credit hours of approved courses with a grade average of B or better. For students entering with a master's degree in a mathematical subject compatible with our program, as determined by the graduate committee, this requirement is reduced to 18 credit hours of approved courses.

Qualifying Examination

Students are required to take qualifying examinations in the areas of theoretical statistics and applied statistical modeling.

Area Examination

A doctoral student in the statistics program must take an oral area examination in their chosen area of specialization. The subjects for the area exam will be determined by the student and their advising committee.

Course Requirements

Code	Title	Credit Hours
Required Courses:		
STAT 445	Theoretical Statistics I	3
STAT 446	Theoretical Statistics II	3
STAT 425	Data Analysis and Linear Models	3
STAT 426	Multivariate Analysis and Data Mining	3
STAT 455	Linear Models	3
STAT 448	Bayesian Theory with Applications	3
STAT 495	Statistical Consulting and Collaboration	3
STAT 545	Advanced Theory of Statistics I	3
Electives		12
Total Credit Hours		**36**

A student with a master's degree in a mathematical subject compatible with our program, as determined by the department graduate committee, must take 18 credit hours of approved courses. The department graduate committee will determine which of the specific course requirements stated above have been satisfied by the master's coursework.