STATISTICS, PH.D.

The Department of Statistics offers a rich variety of courses and seminars in almost all branches of statistical theory and applications. The department offers the master of science (M.S.) and the doctor of philosophy in statistics (Ph.D.), and M.S. and Ph.D. degrees in statistics with a named option in biostatistics. An M.S. in statistics with a named option in data science is also available to students meeting the criteria (see the data science (http://www.stat.wisc.edu/ms-degree-data-science-option-ms-ds) page for more details). In addition, the department is closely involved with the biometry program, and with the School of Medicine and Public Health's Department of Biostatistics and Medical Informatics, both listed separately in this catalog.

The statistics department provides extensive computing facilities, both hardware and software, to support instruction and research. Several computers and advanced graphic workstations are available for use in advanced courses enabling students to pursue the latest research directions in statistical computing and graphics. Common statistical packages and libraries are available on a variety of machines.

The department may be consulted for specific career information. A number of assistantships are available each year; see the department website (http://www.stat.wisc.edu) for application materials and deadlines. The master’s degree programs are described below.

Additional information about the master’s and Ph.D. programs, including time limits, can also be obtained from the department.

FUNDING

Prospective students should see the program website (http://www.stat.wisc.edu/financial-aid) for funding information.

REQUIREMENTS

MINIMUM DEGREE REQUIREMENTS AND SATISFACTORY PROGRESS

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

DOCTORAL DEGREES

Ph.D., with available named option in Biostatistics

MINIMUM GRADUATE DEGREE CREDIT REQUIREMENT

51 credits

MINIMUM GRADUATE RESIDENCE CREDIT REQUIREMENT

32 credits

MINIMUM GRADUATE COURSEWORK (50%) REQUIREMENT

At least half of degree coursework (26 credits out of 51 total credits) must be in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

PRIOR COURSEWORK REQUIREMENTS: GRADUATE WORK FROM OTHER INSTITUTIONS

With program approval, students are allowed to count no more than 9 credits of graduate coursework from other institutions toward the graduate degree credit and graduate coursework (50%) requirements. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE

With program approval, up to 6 statistics credits from a UW–Madison undergraduate degree at the 600 level or above are allowed to count toward minimum graduate degree credits. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL

With program approval, up to 15 statistics credits completed at UW–Madison while a University Special student at the 300 level or above are allowed to count toward minimum graduate degree and graduate residence credit requirements. Of these credits, those at the 700 level or above may also count toward the minimum graduate coursework (50%) requirement. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

CREDITS PER TERM ALLOWED

15 credits

PROGRAM-SPECIFIC COURSES REQUIRED

Yes—see program website (http://www.stat.wisc.edu/phd-masters/PhD_Degree_Regulations) for a list of required courses.

DOCTORAL MINOR/BREADTH REQUIREMENTS

Students are required to complete either an Option A or Option B minor (at least 9 credits), or they may instead opt to complete a Breadth Option (called "Option C" in the statistics department) option consisting of at least two of the following three: participatory seminar experience, collaborative research experience, and/or a breadth course. See the program website (http://www.stat.wisc.edu/phd-masters/PhD_Degree_Regulations) for more details.

OVERALL GRADUATE GPA REQUIREMENT

Minimum 3.00 GPA required.
OTHER GRADE REQUIREMENTS
A grade of B or better must be received in any course used to fulfill the required and elective course requirements.

PROBATION POLICY
Three consecutive reviews in which a student fails to meet the minimum criteria for satisfactory progress will result in the student being dropped from the program. Contact the program for more information.

ADVISOR
Students are required to meet with their advisor near the beginning of each semester to discuss course selection and progress.

ASSESSMENT AND EXAMINATIONS
Students must pass the Ph.D. qualifying examination, an oral preliminary examination on a topic selected with the approval of the student’s advisor, and a thesis defense.

TIME CONSTRAINTS
Students must pass the Ph.D. qualifying examination within six semesters from the first fall semester of registration as a graduate student in the department. Students who complete a master’s in the department and then are admitted to the Ph.D. program must pass the Ph.D. qualifying examination within four semesters after entering the Ph.D. program.

LANGUAGE REQUIREMENTS
No language requirements.

ADMISSIONS
Students holding a bachelor’s degree with a natural science, social science, or engineering major and strong mathematical background are encouraged to apply for admission to the graduate program in statistics. Students are advised to undertake graduate work in statistics only if their undergraduate grades in mathematics were uniformly high. Students cannot get credit for more than one of STAT 301 Introduction to Statistical Methods, STAT 324 Introductory Applied Statistics for Engineers, or STAT 371 Introductory Applied Statistics for the Life Sciences.

LEARNING OUTCOMES

KNOWLEDGE AND SKILLS
- Articulates research problems, potentials, and limits with respect to the theories, methodologies, and/or applications of statistics.
- Formulates ideas, concepts, designs, and methods beyond the current boundaries of knowledge within statistics.
- Creates research that makes a substantive contribution to theoretical and/or applied statistics.
- Demonstrates breadth in the theories, methodologies, and applications of statistics.
- Advances contributions of statistics to society.
- Communicates complex ideas in a clear and understandable manner.

PROFESSIONAL CONDUCT
- Fosters ethical and professional conduct.

PEOPLE
Faculty: Professors Y. Wang (chair), Chappell, Clayton, Keles, Larget, Loh, Newton, Nordheim, Qian, Shao, Tsui, Wahba, Yandell, Yuan, C. Zhang, Z. Zhang, J. Zhu; Associate Professors Ane, S. Wang; Assistant Professors Hanlon, Raskutti, Rohe, A. Zhang