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://guide.wisc.edu/graduate/statistics/statistics-ms/statistics-data-science-ms) 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.

### ADEMISSIONS

Please consult the table below for key information about this degree program’s admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program’s website. Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet the minimum requirements** (https://grad.wisc.edu/apply/requirements) of the Graduate School as well as the program(s).

Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply).

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>December 1</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>The program does not admit in the spring.</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>The program does not admit in the summer.</td>
</tr>
<tr>
<td>GRE (Graduate Record Examinations)</td>
<td>Required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (<a href="https://grad.wisc.edu/apply/requirements/english-proficiency">https://grad.wisc.edu/apply/requirements/english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### FUNDING

**GRADUATE SCHOOL RESOURCES**

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding) is available from the Graduate School. Be sure to check with your program for individual policies and processes related to funding.

**PROGRAM RESOURCES**

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

**MINIMUM GRADUATE SCHOOL REQUIREMENTS**

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Mode of Instruction Definitions**

**Evening/Weekend:** These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.

**Online:** These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.

**Hybrid:** These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.

**Accelerated:** These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the...
advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

CURRICULAR REQUIREMENTS

Requirements Detail

<table>
<thead>
<tr>
<th>Minimum Credit Requirement</th>
<th>51 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>32 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>Half of degree coursework (26 credits out of 51 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (<a href="http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle">http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>A grade of B or better must be received in any course used to fulfill the required and elective course requirements.</td>
</tr>
<tr>
<td>Assessments and Examinations</td>
<td>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 dissertation defense.</td>
</tr>
<tr>
<td>Language Requirements</td>
<td>No language requirements.</td>
</tr>
</tbody>
</table>

Doctoral Minor/Breadth Requirements

Statistics doctoral students are not required to complete a minor by the Graduate School. The program does require students to meet the breadth requirement in one of three ways:

1) Complete an Option A (external) minor
2) Complete an Option B (distributed) minor consisting of at least 9 credits outside the Department of Statistics, at least 3 credits of which must be from course(s) numbered 600 or higher.
3) Complete a Breadth Option (called "Option C" in the statistics department) consisting of at least two of the following three: participatory seminar experience, collaborative research experience, and/or a breadth course.

See the program website (https://stat.wisc.edu/graduate-studies/phd-program/) for more details.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT/MATH 709</td>
<td>Mathematical Statistics</td>
<td>4</td>
</tr>
<tr>
<td>STAT/MATH 710</td>
<td>Mathematical Statistics</td>
<td>4</td>
</tr>
<tr>
<td>STAT/MATH 733 or STAT 771</td>
<td>Theory of Probability I or Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td>STAT 849</td>
<td>Theory and Application of Regression and Analysis of Variance I</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 850</td>
<td>Theory and Application of Regression and Analysis of Variance II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 998</td>
<td>Statistical Consulting</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses:

Eighteen elective credits, which may include:

- STAT/B M I 641, STAT/B M I 642, or Statistics courses numbered 700 or higher
- Up to six credits of graduate courses in other departments complementary to the student's interest areas (with permission from the student's advisor)
- If STAT 992 is used to fulfill the elective requirement, only 3 credits from any one topic and a maximum of 9 credits can be used.

Sufficient credits from any UW Madison courses including STAT 990 to reach the 51-credit minimum

Total Credits | 51

1 Courses that do not count in this requirement: STAT/MATH 709 Mathematical Statistics, STAT/MATH 710 Mathematical Statistics, STAT 849 Theory and Application of Regression and Analysis of Variance I, STAT 850 Theory and Application of Regression and Analysis of Variance II, STAT 990 Research, A student who takes both STAT/MATH 733 Theory of Probability I and STAT 771 Statistical Computing may count one course in this requirement.

NAMED OPTIONS (SUB-MAJORS)

A named option is a formally documented sub-major within an academic major program. Named options appear on the transcript with degree conferral.


POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

GRADUATE PROGRAM HANDBOOK

The Graduate Program Handbook (http://www.stat.wisc.edu/sites/default/files/2016-17%20Complete%20PDF%20Handbook.pdf) is the repository for all of the program's policies and requirements.
PRIOR COURSEWORK

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 five or more years prior to admission to a doctoral degree is not allowed to satisfy 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 five or more years prior to admission to a doctoral degree is not allowed to satisfy 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 five or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

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

CREDITS PER TERM ALLOWED
15 credits

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.

OTHER
Students pursuing the general statistics and biostatistics options are considered for department financial support and may seek a dual degree if desired.

PROFESSIONAL DEVELOPMENT

LEARNING OUTCOMES

1. Articulates research problems, potentials, and limits with respect to the theories, methodologies, and/or applications of statistics.
2. Formulates ideas, concepts, designs, and methods beyond the current boundaries of knowledge within statistics.
3. Creates research that makes a substantive contribution to theoretical and/or applied statistics.
4. Demonstrates breadth in the theories, methodologies, and applications of statistics.
5. Advances contributions of statistics to society.
6. Communicates complex ideas in a clear and understandable manner.
7. Fosters ethical and professional conduct.

PEOPLE

Faculty: Professors J. Zhu (chair), Ane, Chappell, Chien, Keles, Larget, Loh, Newton, Shao, Y. Wang, Yandell, C. Zhang, Z. Zhang; Associate Professor Rohe; Assistant Professors Garcia Trillos, Kang, Patel, Raschka, Raskutti, M. Wang, A. Zhang

GRADUATE SCHOOL RESOURCES
Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd) to build skills, thrive academically, and launch your career.