PhD in Statistics

Admission Criteria
Fall deadline: January 15
Spring deadline: October 15
- Minimum TOEFL scores:
  - Internet-based test (iBT) 80
  - Paper-based test (PBT) 535
- Minimum GPA: 3.5 in math and statistics to enter PhD program
- Master's degree from accredited college or university in related area

Before entering the graduate program, a student should have a background that includes three semesters of calculus (or equivalent), one semester of matrix theory, and at least one post-calculus course in probability and statistics. Some required courses at the 7000 level not taken as an undergraduate may be taken for graduate credit as part of the graduate program.

Required Application Materials
To the Office of Graduate Studies:
- All required Graduate Studies documents
To the Program:
- Departmental application
- 3 letters of recommendation (use departmental form)
- Letter of intent
- GRE score report

Qualifying Examination
All doctoral students must pass the qualifying exam, which is offered in August and January of each year. The exam consists of two parts, one covering STAT 7750 and STAT 7760 (Statistical Inference), and a second part covering STAT 8310 and STAT 8320. All doctoral students must take the exams at the first opportunity after taking the required courses, usually in August at the start of the second year. Students have two attempts to pass each part.

Doctoral Committee
Within one semester of passing the qualifying examination, a student must choose a doctoral program committee in consultation with his or her advisor. This committee consists of at least five members, at least three of whom are members of the doctoral faculty in statistics and at least one from another MU doctoral program.

Preliminary Examination
The preliminary exam is a written exam offered in August and January of each year. Before taking the exam, the student is required to have passed the qualifying exams and chosen his/her major professor. The exam consists of two parts: Part one covering STAT 9710 and STAT 9720 and part two covering STAT 9310. Students have two attempts to pass each part. Students must take the preliminary exam at the earliest possible time after passing the qualifying exam and completing the courses required for the preliminary exam, normally the start of the third year of study.

Required Course Work
Before taking the comprehensive examination, students should complete six courses taken at MU or at comparable institutions.

Select six of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>STAT 9100</td>
<td>Recent Developments in Statistics</td>
</tr>
<tr>
<td>STAT 9250</td>
<td>Statistical Computation and Simulation</td>
</tr>
<tr>
<td>STAT 9320</td>
<td>Advanced Linear Models</td>
</tr>
<tr>
<td>STAT 9370</td>
<td>Multivariate Analysis</td>
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<tr>
<td>STAT 9410</td>
<td>Survival Analysis</td>
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<tr>
<td>STAT 9510</td>
<td>Theory of Nonparametric Statistics</td>
</tr>
<tr>
<td>STAT 9530</td>
<td>Data Mining and Machine Learning Methods</td>
</tr>
<tr>
<td>STAT 9640</td>
<td>Bayesian Analysis II</td>
</tr>
<tr>
<td>STAT 9810</td>
<td>Advanced Probability</td>
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<tr>
<td>STAT 9820</td>
<td>Stochastic Processes</td>
</tr>
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</table>

(Different 9100s can be counted more than once.) Other courses may be substituted at the discretion of the student’s doctoral program committee.

Comprehensive Examination
After successfully completing the preliminary exam and the required coursework, the student is eligible to take the comprehensive examination. This examination consists of a written and oral section as specified in the Graduate Studies catalog. This examination must be completed at least seven months prior to the final defense of the dissertation.

Dissertation
A dissertation, prepared under the direction of a dissertation supervisor, is required. The dissertation should be presented in an open seminar as part of the final examination, which is be conducted by the final examination committee. The dissertation should be made available for public review, through the Department of Statistics office, for at least one week before the examination.

Additional Requirements
Additional requirements for the PhD in statistics are determined by the student’s program committee and the director of graduate studies.