

PhD DEGREE REGULATIONS

University of Wisconsin-Madison – Department of Statistics

Revised May 1, 2014 - Effective for students entering the program in Summer/Fall 2014 or later

1. Course Requirements (51 credits)

- Stats 709 and 710 (Mathematical Statistics)
- Stats 733 (Measure Theoretic Probability)
- Stats 849 and 850 (Statistical Methods and Applications)
- Stats 998 (Statistical Consulting)
- Eighteen or more elective credits from statistics courses numbered 641, 642, or 700 or higher (with the exception of 609, 610, 699, 709, 710, 849, 850, 990, or 998). If 992 is used to fulfill the elective requirement, a maximum of 9 credits can be counted, with a maximum of three credits on any one topic.
- Breadth requirement (option A, B, or C). Specific requirements can be found in section 5 of this document.
- The following may also be allowed to count towards the 51-credit minimum for the PhD degree:
 - Up to six credits of graduate courses in other departments complementary to the student's interest areas (with permission of the student's advisor).
 - Up to six credits of statistics coursework at the 600-level or above, taken while an undergraduate or special student at UW-Madison, provided that the work was completed no more than ten years prior to admission to the PhD degree (with permission of the student's advisor). If the work was completed as a special student, students must also pay the difference between special student and graduate tuition.
- Sufficient credits of Statistics 990 to reach the 51-credit minimum.
- If completing the Biostatistics option, 12 credits of the required 18 elective credits must include three credits of Stat 641, six credits from this list: (Stat 642, 741, and 877), and three credits selected from this list: (Genetics 466, Zoology 570, Biocore 303, Population Health 795, or Medical Sciences 622-721).

A grade of B or better must be received in any course used to fulfill the required and elective course requirements.

With the approval of the Curriculum and Degree Requirements Committee, up to nine credits of graduate course work taken elsewhere or equivalent material learned elsewhere may be used to fulfill the above requirements. Approval must be requested within the first two semesters of registration as a graduate student in the department.

2. Qualifying Examination

The student must pass the PhD Qualifying Examination within six semesters from the first fall semester of registration as a graduate student in the Department. The examination may be attempted a maximum of two times.

Master's degree students who successfully complete the Department's MS Degree Requirements within four semesters and are then admitted to the PhD program must pass the PhD Qualifying Examination within four semesters after entering the PhD program.

The examination is a written exam and is based on a syllabus made available by the PhD Qualifying Examination Committee. A reading list containing references discussing material on the syllabus is also available. Most or all of the syllabus material is covered in the required courses, 709, 710, 733, 849, and 850.

The written examination is given during the week before or the first or second week of classes in each semester and is administered on two days. The first day covers Mathematical Statistics and is based on the material of 709 and 710; typically the student must answer three questions from a list of four. On the second day the student must answer two questions from a list of four containing two questions based on material from 849-850 and two questions based on material from mathematical distribution theory and probability (709 and 733).

Passing or failing this examination will not affect the student's candidacy for the Master's degree.

3. Preliminary Examination

The student must pass an oral preliminary examination on a topic selected with the approval of the student's advisor. The examination is given by a committee of at least four faculty members appointed by the advisor. Prior to the actual examination, the student must prepare a 15 to 20 page paper outlining the area to be covered. The paper must be written in a clear style with consistent notation. The paper should indicate the scope and depth of the student's dissertation research, and should be submitted to the committee at least one week prior to the examination.

The examination typically consists of a 20 to 30 minute talk by the student and questions by the committee. The committee may ask questions during and after the talk. The student may consult notes, but is expected to display a mastery of the subject matter as defined by the list of references. The scope of the questions will normally be directed to the subject matter of the paper but may, by natural extension, include any relevant topic. The student's advisor may not serve as chair of the committee, but does appoint the chair.

At least three weeks before the scheduled Preliminary Examination, students should contact the graduate coordinator, who will request a preliminary warrant from the Graduate School. Upon review, the Graduate School will return the warrant to the Graduate Coordinator for committee members to sign after the examination.

4. Dissertation

The primary requirement for the PhD degree is the completion of a significant body of original research and the presentation of this research in a dissertation. The research is carried out under the guidance of a member or members of the Department. The candidate must defend the dissertation in a final oral examination.

At least three weeks prior to the final oral examination, the student should contact the graduate coordinator, who will submit a request for a "PhD Final Oral Committee Approval Form" to the Graduate School. Upon review, the Graduate School will return the warrant to the Graduate Coordinator, which will then need to be signed by the Committee and Department Chair following a successful defense.

Students are responsible for ensuring that they meet Graduate School requirements and deadlines: <http://grad.wisc.edu/currentstudents/degreedeadlines/> and <http://grad.wisc.edu/currentstudents/degree/>.

5. Breadth Requirements

There are three options that fulfill the breadth requirement. For all options, students must complete PhD Breadth Requirement form and have it signed.

Option A (External): Fulfill the minor requirement as specified by another department or program other than Statistics. Students should contact the individual department or program for details.

Option B (Distributed minor):

- At least 9 credits in one or more departments other than Statistics.
- At least 3 credits must be from courses numbered 600 or higher.
- Some courses numbered lower than 600 may not be included*.
- Any course covering the same material as existing courses in Statistics cannot be included* except that at most one course cross-listed with Statistics may be included if it is not staffed by the Statistics department. (* The Department maintains a list of such courses. For example, the following courses are not included: all courses 300 or below, CS 302, CS 367, Math 521, Math 522, Econ 709, Econ 710.)
- Courses must be completed with grades BC or higher with an average of B or higher.

Option C (Breadth): Fulfill at least two of the following three:

- Participatory seminar experience: Take two one-credit seminar courses outside of the Statistics and Biostatistics and Medical Informatics (BMI) departments. These must involve some level of active participation, such as an oral presentation or written report.
- Collaborative research experience: This provides students with direct experience in interdisciplinary collaborative research activity under the guidance of a faculty trainer. The student must report the results of this activity in an advertised seminar. Students may fulfill this requirement by rotating through directed study/research credits with Statistics or Biostatistics degree option faculty trainers, or with faculty from other departments.
- Breadth course: Take a 2-3 credit graduate course outside of the Departments of Statistics or BMI. This must be at or above the 600 level, or be from the approved list of outside courses for the Biostatistics Degree Option.

For option B, the student must complete a PhD Minor Agreement Form signed by the student's advisor and the Department Minor Advisor before starting the second minor course.

For option C, the student must present a tentative proposal signed by the student's advisor and the Department Breadth Advisor before starting the second part of this option. The student must write a letter to the Chair of the Curriculum and Degree Requirements Committee (CDRC) detailing how the requirements are fulfilled and submit with PhD Breadth Requirement form.

Students who do not yet have a major professor and who want some preliminary advice on the kinds of programs likely to be approved may speak with a Graduate Advisor for New Students.

6. Graduate School Higher Learning Commission Requirements

- A PhD degree requires 51 credits (not including audits or pass/fail). [*Minimum Graduate Degree Credit Requirement*]
- At least 32 of these credits must be taken in-residence at UW-Madison. [*Minimum Graduate Residence Credit Requirement*]

- Half of the degree course work (26 credits out of 51 total credits) must be completed with a combination of Statistics courses numbered 600 or higher (which our department considers to be graduate courses), and, if doing the Biostatistics option, courses considered graduate courses from other departments used to satisfy the Biostatistics requirements (including, but not limited to, Genetics 466, Zoology 570, Biocore 303, Population Health 795, and Medical Sciences 622-721). *[Minimum Graduate Course Work (50%) Requirement]*
- With program approval, students are allowed to count no more than 9 credits of graduate course work from other institutions toward the graduate degree credit and graduate course work (50%) requirements. Course work earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements. *[Prior Course Work Requirement]*
- 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. Course work earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements. *[Prior Course Work Requirement]*
- With program approval, and payment of the difference between special and graduate tuition, 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 course work (50%) requirement. Course work earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements. *[Prior Course Work Requirement]*