

Graduate Handbook

Ph.D. in Statistics

1. In order for a student to be accepted into the Ph.D. program in Statistics, they must have an M.S. degree in Statistics or a related field.
2. An admitted student will be assigned an initial advisor for the Ph.D. program. This advisor is a coursework advisor to help the student get started into the program and advise any coursework for the first one or two semesters. This advisor is not considered to be the research advisor of the student.
3. Students in the Ph.D. program in Statistics will need 60 hours of credits beyond the master's degree, if they are given 30 credits for their master's degree. These 60 credits are generally split between 30 credits of research and 30 credits of coursework. No more than 6 credits (2 courses) of the following courses will be allowed to count towards the 60 credits unless approved by the student's Graduate Advisory Committee.
 - STAT 661. Applied Regression Models, 3 Credits.
 - STAT 662. Introduction to Experimental Design, 3Credits.
 - STAT 764. Multivariate Methods, 3Credits.
 - STAT 767. Probability and Mathematical Statistics I, 3Credits
 - STAT 768. Probability and Mathematical Statistics II, 3Credits
4. It is assumed the majority of these courses listed are taken at the master's level and the student has been given 30 credits for the master's degree.
5. After the first one or two semesters in the program, the student may meet with various faculty in the Department, and decide on which area in statistics they would like to conduct research, and which faculty member they would like to work with in research. If that faculty member agrees to work on research with the student, that faculty member becomes the student's research advisor.
6. A student needs to have completed at least one full year at NDSU in the graduate program in Statistics, or passed the written comprehensive exam, before they are allowed to sign up for any research credits.
7. Once a research advisor is decided upon, the student should fill out a [plan of study](#) with the help of their research advisor. In filling out the plan of study, the student, with the help of their research advisor, should decide on which faculty members to ask to be on the examining committee. The examining committee must have at least 4 qualified faculty members on it, with one of these faculty members being the research advisor, and another faculty member coming from outside the Department (and approved by the Graduate School). All students are required to take Stat 764, Stat 886, Stat 874, if not taken at the master's level.
 - STAT 764. Multivariate Methods
 - STAT 874. Generalized Linear Models
 - STAT 886. Advanced Inference
8. Generally, after the first year in the program, the student takes the comprehensive exam in Statistics. This exam is one exam, but it is given in two parts on two different days. The first part of the comprehensive exam covers the material in Stat 767 and Stat 768. The second part of the comprehensive exam covers the material in Stat 661, Stat 662, and either Stat 764 or Stat 874. An

average score of at least 80% is required on both parts of the exam to pass. If the student receives less than an 80% on one part, but at least an 80% on the other part, the student only needs to retake the part that they scored less than an 80% on. This would include the material in all courses covered in that part. A student is given two attempts at passing the comprehensive exam. If the student does not pass the exam in two attempts, they may write a letter, with the help of their advisor, to appeal for a third attempt. A comprehensive exam committee of 3 faculty members would be appointed to decide on whether or not to allow the student a third attempt. A student would never be allowed more than 3 attempts, and the third attempt is not guaranteed. Note that students should keep their own notes for these classes. They should not assume that one can always get on Blackboard to find notes. A student will not have access to the Blackboard site of a class unless they are a student in the class during that semester.

Part I

- STAT 767. Probability and Mathematical Statistics I
- STAT 768. Probability and Mathematical Statistics II

Part II

- STAT 661. Applied Regression Models
- STAT 662. Introduction to Experimental Design
- STAT 764. Multivariate Methods or STAT 874 Generalized Linear Models

9. After the comprehensive exam is passed, the student can do their proposal oral, when they have sufficient research done, have a research proposal written, and have the consent of their research advisor. The proposal oral must be scheduled at least two weeks in advance of the oral exam. Everyone on the student's committee must agree to the proposed time. The form to [schedule the proposal oral](#) may be found on the Graduate School Website. This form must be started by the student in Docusign. All faculty members on the committee need to be given the written research proposal at least one week before the oral exam. After the oral exam, the student should start the form for the [Report of a Preliminary Exam](#) in Docusign. This form is found on the Graduate School Website.
10. Once the written proposal is approved and the preliminary oral exam is passed, the student may then complete their proposed research with guidance from their research advisor.
11. When the research advisor thinks that the student has completed a sufficient amount of research as agreed upon by the examining committee, and has written up this research in the form of a dissertation that is acceptable to the advisor, the student may schedule their Final Exam. The Final Exam must be scheduled at least two weeks in advance. All members of the examining committee need to have a copy of the dissertation at least one week in advance. The form to [schedule the Final Exam](#) is on the Graduate School Website. This form needs to be started by the student in Docusign.
12. After the defense, the student needs to start the [Report of the Final Defense form](#) in Docusign. The student will also need to start the IRB/IACUC/IBC compliance form. After changes are made to the dissertation as requested by the examining committee, the student should start the Approval Page on Docusign. All of these forms may be found on the Graduate School website.
13. Once the final defense is passed, and the dissertation is approved by the committee, the student should submit the dissertation to the Graduate School. The Graduate School will then work with the student on formatting changes that are required. The student should respond to any changes wanted by the

Graduate School. These changes must be made and approved by the Graduate School before the degree is awarded. All fees must also be paid to the Graduate School for reviewing the dissertation.

Some additional notes:

When writing the final dissertation, the student should read the Graduate School Website on disquisitions and follow the rules. Formatting will be reviewed by the Graduate School. Any fees that the Graduate School requires must also be paid when the dissertation is submitted or when requested by the Graduate School.

Students should pay attention to the dates listed on the Graduate School Website. The dates would include filing the intention to graduate, and the dates that the dissertation must be in to the Graduate School in order for graduation to occur that semester. Other dates may be listed as well.