

# NDSU Statistics

## **Graduate Program Description**

The Department of Statistics offers programs leading to a Ph.D. in statistics or a master's degree in applied statistics. The program is flexible enough to be individually planned around prior experience and in accord with professional goals.

During the first year of the program, students are strongly encouraged to meet with each individual faculty member to discuss possible research topics. The student should select an advisory and examining committee by the end of the first year.

A joint master's degree in computer science and statistics may also be obtained.

A graduate minor in statistics is available to students in other programs.

## **Admissions Requirements**

### **Master's Program in Applied Statistics:**

The Department of Statistics' graduate program is open to qualified graduates of universities of recognized standing. To be admitted with full status to the M.S. program, the applicant must:

1. Hold a baccalaureate degree from an educational institution of recognized standing.
2. Have had at least one year of calculus.
3. Have had at least one course in statistics.
4. Have had at least one programming language.
5. Must have at least a 3.0 or equivalent cumulative grade point average (GPA) on all related courses at the baccalaureate level.

### **Joint Master's Program in Computer Science and Statistics:**

To be admitted with full status into the M.S. program in computer science and statistics, the applicant must satisfy the admission requirements for both the M.S. program in computer science and the M.S. program in applied statistics.

### **Ph.D. Program in Statistics:**

To be admitted with full status into the Ph.D. program, the applicant must:

1. Hold a baccalaureate degree from an educational institution of recognized standing.
2. Have had four courses in Math at the university calculus level or above.
3. Have had several courses in statistics.
4. Have had at least one programming language.
5. Must have at least a 3.0 or equivalent cumulative grade point average (GPA) on all related courses at the baccalaureate level.

Students not holding a master's degree in statistics or a closely related field will not be admitted to the Ph.D. program in statistics. These students must first apply to the M.S. program in applied statistics and complete the M.S. degree.

Preferably, applications should be submitted directly to the Graduate School before March 15 of the upcoming academic year.

Official transcripts (transcripts having an appropriate seal or stamp) of all previous undergraduate and graduate records must be received by the Graduate School before the application is complete. When a transcript is submitted in advance of completion of undergraduate or graduate studies, an updated transcript showing all course credits and grades must be provided prior to initial registration at NDSU.

Three letters of recommendation are generally required before action is taken on any application. Personal reference report forms are available from the Graduate School.

The TOEFL examination is required of international applicants. A minimum score of 550 (paper test) or 213 (computer test) be achieved.

### **Financial Assistance**

The student must first make application to the Graduate School and be accepted in full or conditional status before he/she is eligible for an assistantship in the Department of Statistics.

Teaching assistantships are available. To be considered for an assistantship, a completed Graduate School application, official transcripts, and three letters of reference must be submitted to the Graduate School no later than March 15. International students must also submit a TOEFL score.

### **Degree Requirements**

The program for the M.S. degree in applied statistics requires 32 semester credits with an overall GPA of 3.0 or higher. An oral defense of a research-based thesis or paper is required.

The program for the M.S. degree in computer science and statistics requires 42 semester credits with an overall GPA of 3.0 or higher. An oral defense of a research-based thesis or paper is required.

The program for the Ph.D. degree requires an additional 30 credits of course work beyond the M.S. degree and 30 hours of research. An oral defense of a dissertation is required.

### **Requirements for the M.S. degree in Applied Statistics**

All students must:

1. Complete a set of core courses with a grade of B or better including: STAT 661, 662, 767, 768, 764 or 774.

2. Successfully complete 2 one-credit practicum's in consulting. Each statistical practicum will be listed as STAT 794.
3. Complete an additional 9-12 hours (depends on number of research hours) of course work selected from the following courses: STAT 650, 651, 660, 663, 664, 665, 670, 730, 750, 761, 762, 770, 775, 777, 778, 780, 786, 796 (Special Topics in Statistics). At most, two of the following courses will count in the additional 9-12 hours: CSCI 618, 654, 737; MATH 650, 688, 728.
4. Pass two written comprehensive exams. This is given twice per year. A maximum of two attempts will be allowed.
5. Successfully complete and defend a research-based thesis or paper.

### **Requirements for the M.S. degree in Computer Science and Statistics**

All students must:

1. Take a minimum of 42 semester credit hours including at least 18 graduate course credits in computer science and at least 18 graduate course credits in statistics.
2. Take CSCI 708, 713, 724, 737, 765 and one additional 600- or 700-level course in computer science.
3. Take STAT 661, 662, 767, 768, 764 or 774, and one additional 600- or 700-level course in statistics (does not include STAT 725).
4. Pass both the comprehensive exams for the M.S. degree in computer science and the M.S. degree in statistics.
5. Successfully complete a research-based thesis or paper. The supervisory committee must consist of at least one faculty member from computer science and at least one faculty member from statistics.

### **Requirements for the Ph.D. degree in Statistics\***

All students must:

1. Complete a set of core courses with a grade of B or better including: STAT 661, 662, 767, 768, 764 or 774.
2. Successfully complete 6 one-credit practicum's in Consulting/Presentation Practicum. Each statistical practicum will be listed as STAT 794.
3. Complete an additional 30 semester credits of statistics courses at the 600- or 700-level (does not include STAT 725). At least 15 credits must be at the 700-level.
4. Complete 9 semester credits from the following: MATH 650, 651, 688, 689, 728; CSCI 654, 737. This requirement may be waived and additional courses in statistics substituted upon approval by the advisor and advisory committee.
5. Pass a written comprehensive exam. This exam consists of three sections that are each three hours in length. It is given once a year during approximately the fifth week of the Spring Semester. A maximum of two attempts is allowed.
6. Submit a research proposal and pass an oral exam on the proposal and related topics.
7. Complete and successfully defend the research dissertation.

\*Some of these requirements may be satisfied upon admittance into the program with an already existing M.S. degree in Statistics.