

Joint Agronomy and Statistics Ph.D.

Program Overview

This program is designed to allow a student to earn an interdisciplinary Ph.D. in the fields of Agronomy and Statistics (i.e. a Joint PhD). Students obtaining this degree are expected to make meaningful research contributions to both fields.

Rationale for Program

In recent years, there has been an increased demand for graduates with advanced degrees who have a high level of education in both the plant and statistical sciences. These jobs generally require more than just a PhD in Plant Sciences with a minor in Statistics. As an example, companies such as Monsanto often have a number of jobs open for scientists with strong backgrounds in both plant sciences and statistics and they have difficulty filling these positions.

Entrance requirements

A student may apply to the program by request, either as a new student or as a current student. Admission must be approved by the Graduate Chairs of both Departments. As a general guide, students considered for the program should demonstrate backgrounds of sufficient strength to warrant entrance into the Ph.D. program of both departments.

Students entering the joint Statistics/Agronomy Ph.D. program are expected to have intermediate level training in agronomy and adequate mathematical background including 3 semesters of calculus, a course in linear algebra and a course in statistics. Students who have not taken these courses can be accepted into the program on a provisional basis. Provisional status will be removed when the deficiencies completed.

Supervisory Committee

The graduate chairs of each department shall jointly appoint a supervisory committee: thus both graduate committee chairs must sign the Appointment of Supervisory Committee form. The committee must consist of equal numbers of faculty from each department. The committee will be co-chaired by a faculty member from each department and two readers with one reader from each department. A faculty member cannot serve as both a reader and a co-chair on the committee. The committee must approve the program of study and special details of the program.

Program of Study

The program of study must consist of at least 90 hours. In addition, the program of study must include 30 hours of Statistics courses and 30 hours of Agronomy courses. The following courses must be included in the program of study, unless credit has been granted for equivalent courses taken elsewhere:

Statistics: Stat 802, 882, 883, 970, 971 and five 900-level Statistics courses, courses excluding Stat 997, Stat 999 and not including any in the list above are required.

Agronomy: Agro 991 (Seminar Presentation & Evaluation) and Agro 992 (General Seminar).

Research tool requirement

The research tool requirement will be determined by the student's PhD committee. Students are expected to be proficient in at least one statistical computing language such as SAS, S-Plus, R, Statistica, SPSS, IMSL, Gauss etc.

Comprehensive Examinations

The student must pass the MS Statistics comprehensive exam with a high pass. The student's Ph.D. Supervisory Committee will determine the timing and the content of the Ph.D. comprehensive exam. The written comprehensive exam will not be a repetition of course materials but an investigation of the student's breadth of understanding of the fields of knowledge. Upon completion of the written comprehensive examinations, the student's supervisory committee will meet and administer an oral examination.

Dissertation

The Ph.D. dissertation will be developed under the supervision of the co-advisors on a topic approved by the student's Ph.D. graduate committee and is expected to make an original contribution to both areas. See the Graduate Studies Bulletin for further requirements for the Ph.D. dissertation.

Final Oral Exam

After the dissertation is completed, the student takes a final oral exam. This exam, also called a "thesis defense," is open to the public. Complete details of the final examination procedure are in the Graduate Studies Bulletin.

Other considerations

This program is exclusively a PhD program in that only a PhD program of study will be offered and if a B.S. applicant wants to directly enter the joint PhD program, then he/she must submit evidence of outstanding abilities and credentials justifying why this direct entry is needed.

For more information see:

1. Department of Statistics Graduate Student Handbook:

http://statistics.unl.edu/Acrobat/Statistics_Student_Handbook.pdf

2. Department of Agronomy & Horticulture: Checklist for Ph.D. program