STATISTICS GRADUATE MAJOR (MS, PHD)

This program is available at the following location:

- **Corvallis**

The Department of Statistics & Data Science offers Master of Science and Doctor of Philosophy degrees in Statistics. Students can concentrate on theory or applications, and programs can be tailored to emphasize such areas of interest as ecology, engineering, forestry, finance, mathematics, or oceanography. The thesis is optional for MS degree. Statistical consulting is part of the program, enabling the student to gain a deeper appreciation of the need, power, and applicability of statistical tools through exposure to real problems.

Major Code: 6150

Upon successful completion of the program, students will meet the following learning outcomes:

MS

- Conduct research or produce some other form of creative work.
- Demonstrate mastery of subject material.
- Conduct scholarly or professional activities in an ethical manner.

PhD

- Produce and defend an original significant contribution to knowledge.
- Demonstrate mastery of subject material.
- Conduct scholarly activities in an ethical manner.

MS in Statistics

The MS program is designed to prepare a candidate for a career in industry or government or for further study at the PhD level. MS graduates have found employment with the U.S. Environmental Protection Agency, U.S. Census Bureau, Abt Associates, State of Oregon, Fred Hutchinson Cancer Research Center, Kaiser Permanente, Mayo Clinic, Bureau of Labor Statistics, Department of Veteran's Affairs, NOAA, MRI Global, and Capital One.

Prerequisites

- Single-variable and multivariable calculus (approximately 4 quarters).
- Linear algebra.
- An undergraduate sequence in mathematical statistics. Typical textbook: *Mathematical Statistics with Applications* by Mendenhall, et al.
- One or more applied statistics courses (recommended, but not required).

Students who meet all of the requirements except for one or two courses may be granted provisional admission so they can begin their graduate studies while completing the remaining required courses. When the remedial course work is completed the Graduate School will remove the provisional status.

Requirements

Code	Title	Credits
Required		
ST 501	RESEARCH	3
ST 506	PROJECTS (Sect 2: Teaching Experience)	1
ST 507	SEMINAR (Sect 1: Attendance at Consulting Seminar)	1
ST 507	SEMINAR (Sect 3: Attendance at Research Seminar)	2
ST 509	CONSULTING PRACTICUM	2
ST 541	PROBABILITY, COMPUTING, AND SIMULATION IN STATISTICS	4
ST 551 & ST 552 & ST 553	STATISTICAL METHODS and STATISTICAL METHODS and STATISTICAL METHODS	12
ST 561 & ST 562 & ST 563	THEORY OF STATISTICS and THEORY OF STATISTICS and THEORY OF STATISTICS	12
ST 623	GENERALIZED REGRESSION MODELS	3
Additional approved courses [1]		15
Total Credits		**55**

Blanket courses and courses in other departments may be used only with the consent of the major professor (and minor professor if the course is listed in the minor).

A student intending to pursue the PhD in Statistics should review the mathematics prerequisites and requirements for that program and plan a course of study to satisfy them.

Other Requirements

- Pass written comprehensive exams in statistical methods and in statistical theory. These exams are given each year in September.
- Pass a final oral exam.

PhD in Statistics

The PhD program is designed to prepare a candidate for a career in teaching and research. PhD graduates have found employment with US Geological Survey, Chase Bank, Bureau of Labor Statistics, USDA Forest Service, Weyerhauser, as well as with universities in the U.S. and abroad.

Prerequisites

- Equivalent to the OSU Master's degree in Statistics.
- Pass the MS comprehensive exams in methods and theory.
- Apply for admission to PhD program.
  - Evaluation is by the entire faculty. The evaluation criteria for admission are: course work, grades, MS comprehensive exam results, and any information you provide in your application giving evidence of capability to do original research.
- Coursework equivalent to MTH 311 and MTH 312.

Requirements

Code	Title	Credits
Required		
MTH 511	REAL ANALYSIS	3
MTH 664	PROBABILITY THEORY	3
ST 509	CONSULTING PRACTICUM	2
ST 541	PROBABILITY, COMPUTING, AND SIMULATION IN STATISTICS	4
ST 551 & ST 552 & ST 553	STATISTICAL METHODS and STATISTICAL METHODS and STATISTICAL METHODS	12

ST 561 & ST 562 & ST 563	THEORY OF STATISTICS and THEORY OF STATISTICS and THEORY OF STATISTICS	12
ST 603	THESIS [1]	36
ST 623 & ST 625	GENERALIZED REGRESSION MODELS and SURVIVAL ANALYSIS	6
ST 651 & ST 652	LINEAR MODEL THEORY and LINEAR MODEL THEORY	6
ST 661 & ST 662 & ST 663	ADVANCED THEORY OF STATISTICS and ADVANCED THEORY OF STATISTICS and ADVANCED THEORY OF STATISTICS	9
Select 30 credits to total about 120 credits of course work [1]		30
Total Credits		**123**

[1] Approved courses include all 500 and 600-level courses in the Statistics Department except ST 511, ST 512, ST 513, ST 515, ST 521 and ST 522

Credits completed for an MS degree as well as the 36 or more credits of ST 603 count toward this total. The specific courses to be taken are decided at a meeting of the PhD committee.

Other Requirements

- Pass the preliminary exam over PhD course work.
- Write a thesis describing the results of original research.
- Pass the final examination over thesis and related material.

Major Code: 6150