

WHY STATISTICS?

The most important science in the whole world: for upon it depends the practical application of every other science and of every art: the one science essential to all political and social administration, all education, all organization based on experience, for it only gives results of our experience.

Florence Nightingale
Nurse, health care reformer, and statistician

Statistics as a discipline is the development and application of methods to collect, analyze and interpret data. Modern statistical methods involve the design and analysis of experiments and surveys, the quantification of biological, social and scientific phenomenon, and the application of statistical principles to understand more about the world around us. Since data are used in most areas of human endeavor, the theory and methods of modern statistics have been applied to a wide variety of fields. Some areas that use modern statistical methods are medical, biological and social sciences, economics, finance, marketing research, manufacturing, management, government, research institutes, and many more. Exciting new areas are opening up, due to developments in areas such as biotechnology, survey research, statistics in sports, and computing.

A choice of challenging and well-paying jobs in industry, government, and universities await students completing advanced degrees in statistics (Dallas Morning News, 2004). Median salaries are 50K for M.S. graduates and 65K for Ph.D. graduates (American Statistical Association, 2003).

Students who have majored in mathematics or statistics and have an interest in applications of these fields OR students who have majored in other areas and have a good mathematics background should seriously consider a career in statistics. It is quite common for students to enter a statistics graduate program with only a few statistics courses since statistics is primarily a graduate discipline.

FACULTY

Christopher R. Bilder

Assistant Professor

- Categorical data analysis
- Group testing
- Bootstrapping
- Statistics in sports

Erin Blankenship

Assistant Professor

- Environmental statistics
- Nonlinear models

Kent M. Eskridge

Professor

- Decision analysis
- Design of experiments
- Biological modeling

Kathryn J. Hanford

Assistant Professor

- Mixed models
- Statistical genetics

Stephen D. Kachman

Associate Professor

- Mixed linear models
- Plant & animal breeding
- Statistical genetics
- Statistical computing

David B. Marx

Professor

- Spatial variability
- Design of experiments
- Linear models
- Statistics in sports

Allan McCutcheon

Professor

- Survey research and methodology
- Categorical data analysis

Saralees Nadarajah

Associate Professor

- Climate modeling
- Extreme value theory
- Distribution theory
- Information theory

Mingue Park

Assistant Professor

- Survey sampling
- Multivariate analysis

Anne M. Parkhurst

Professor

- Chaos and nonlinear modeling
- Multivariate analysis
- Time Series analysis

Walter W. Stroup

Professor & Head

- Design of experiments
- Generalized linear models

Min Yang

Assistant Professor

- Design of experiments
- Measurements of agreement
- Nonlinear mixed effects models
- Multiple comparisons

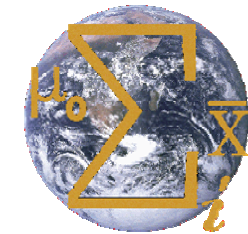
Shunpu Zhang

Associate Professor

- Bayes and empirical Bayes analysis
- Estimating animal abundance

Masters & Doctorate Degree Programs

Department of Statistics



The Department of Statistics at the University of Nebraska - Lincoln offers programs leading to a Masters and Doctorate Degree in Statistics

**Turning data into
knowledge to solve real
world problems**

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ABOUT OUR DEPARTMENT

The Department of Statistics is involved in research, teaching, and statistical consulting for the entire university. Because of its activities, the collaborative work with other disciplines give graduate students a wide range of opportunities to work with individuals in these disciplines and to learn practical applications of statistical principles from direct experience.

The department's faculty represents a wide variety of backgrounds and interests. Areas of specialty include: statistics for ecology and the environment, survey statistics, statistics in sports, biological science, and statistics for spatial variability. In addition, all of the faculty are involved in developing new procedures, often taking advantage of new computing technologies, to make experiments and surveys more informative, less costly, or both. Some of our faculty are involved in projects funded by federal agencies such as the National Science Foundation, Environmental Protection Agency, and United States Department of Agriculture.

ABOUT OUR DEGREE PROGRAM

The Department of Statistics offers M.S. and Ph.D. degrees. The M.S. program consists of course work in statistical theory and methods with training in how to effectively apply statistics to scientific problems. The Ph.D. consists of more advanced statistics course work and a dissertation. A typical M.S. degree program takes two years, and the Ph.D. usually takes three years beyond the M.S.. However, the specific length, as well as the courses actually taken, will depend on the background and interests of the student.

LIST OF COURSES

Experimental Design
Survey Sampling
Spatial Statistics
Statistics in Sports
Regression Analysis
Multivariate Statistical Analysis
Nonparametrics
Categorical Data Analysis
Distribution Theory
Statistical Inference
Stochastic Processes
Advanced Experimental Design
Linear Models
Statistical Modeling
Variance Component Estimation
Nonlinear Regression Analysis
Advanced Probability Theory
Statistical Theory I & II
Practicum in Statistical Consulting
Bioinformatics
Statistical Genomics
Statistical Ecology

ADMISSION

Applicants to the M.S. Program should have a Bachelor's degree with an overall GPA of at least 2.50. Applicants should have at least a 3.00 GPA in the following courses: 1) three semesters of calculus, 2) one semester of matrix algebra, and 3) one semester of statistics.

Students are admitted to the Ph.D. program after being admitted to the M.S. program and passing a Ph.D. qualifying examination. Normally, students take the Ph.D. qualifying exam near the completion of the M.S. program in statistics.

It is recommended that applicants take the Graduate Record Examination prior to admission.

For further information about applying for admission, contact:

Chair, Graduate Studies Committee
Department of Statistics

ASSISTANTSHIPS

Teaching and research assistantships are available on a competitive basis. These are granted for one year and can be renewed for up to one additional year. Students earn 13K per school year (2004-5) and receive tuition remission and health insurance.

There are other employment opportunities as well. A number of students are employed each year as interns at local companies. Additional scholarships are also available for exceptional students.