

## Career and Employment Outlook

The use of statistics is widespread and growing. The U.S. Bureau of Labor Statistics projects 27 percent growth in the number of jobs in the field of statistics, much faster than the average for all occupations. This growth is expected to result from more widespread use of statistical analysis to make informed business, healthcare, and policy decisions.

Technological advances are also expected to increase the demand for statisticians. The trend toward more powerful computers allows statisticians to analyze greater amounts of data much more quickly. Statisticians can now gather and sort through large amounts of data that would not have been analyzed in the past. Furthermore, they can model data in increasingly complex ways.

In a 2013 study the American Statistical Association reported that statisticians with up to five years experience working in business, industry and government jobs fell into the following salary ranges:

- Half of those with a master's degree earned an annual salary of at least \$75,000.
- Half of those with a Ph.D. earned an annual salary of at least \$102,000.

## Statistics at NIU

The Division of Statistics offers many opportunities for beginning a career in statistics, or a related field, with the following graduate degrees:

- **Master of Science in Applied Probability and Statistics:** The master's program includes courses in statistical methodology and applications of statistics. Students have the option of doing research with a faculty member by writing a master's thesis.
- **Ph.D. in Mathematical Sciences:** Students in this program can choose to concentrate their studies in statistics.

Applicants to the graduate program are expected to have a background in Calculus (such as a Calculus course sequence) and a course in Linear Algebra. A background in courses in Probability, Statistics and a knowledge of programming (such as a programming course) are helpful. International students should consult the graduate school ([www.grad.niu.edu](http://www.grad.niu.edu)) for minimum requirements on the TOEFL examination.

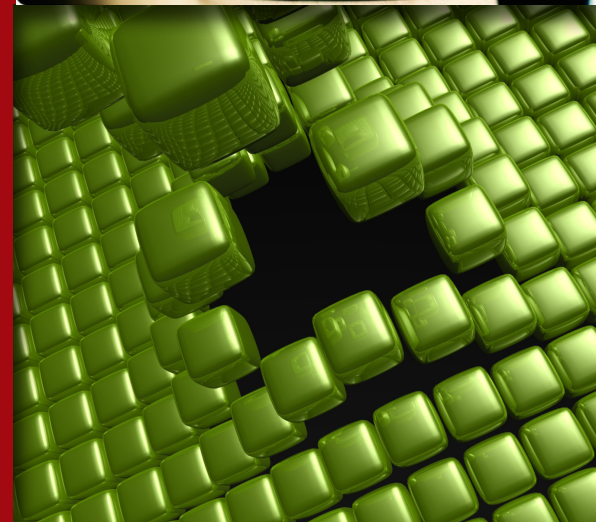
# Graduate Studies in Statistics

**For more information,  
please call 815-753-3806  
or email  
[statgradprogram@niu.edu](mailto:statgradprogram@niu.edu)  
Northern Illinois University  
Division of Statistics  
Du Sable Hall 366  
De Kalb, Illinois 60115**

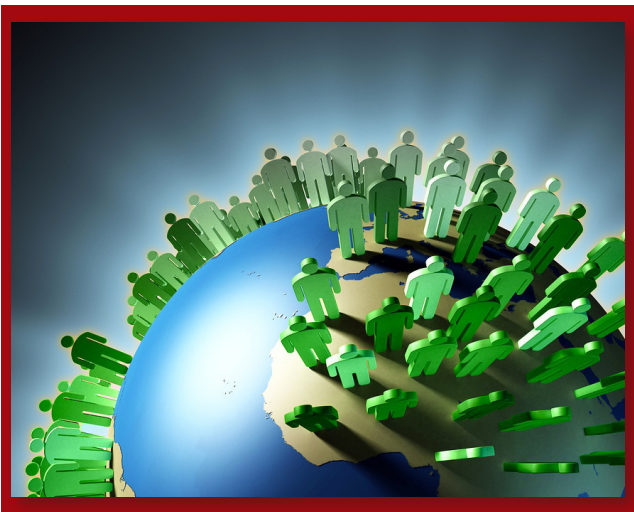
**For up-to-date information visit:  
<http://www.niu.edu/Stat>**

Northern Illinois University is an equal opportunity/affirmative action institution and does not discriminate on the basis of race, color, religion, gender, marital status, national origin, disability, status based on the Victim's Economic Security and Safety Act (VESSA), or status as a disabled or Vietnam-era veteran. Further, the Constitution and Bylaws of Northern Illinois University provide for equal treatment regardless of political views or affiliation, and sexual orientation.

Printed by authority of the State of Illinois.



**Northern Illinois  
University**



## In the age of big data, professionals are needed to analyze the sea of figures

The world is becoming increasingly data oriented; more professions are depending on good numerical reasoning. Data are not just numbers but numbers that carry information about a specific setting and need to be analyzed and interpreted in that setting. Statistics provides the reasoning and the methods for producing and understanding data.

## Mathematics and Computers Are Involved

Statistics uses mathematics, but it is not abstract or isolated: statisticians work with people from other professional backgrounds to solve practical problems. Statistics uses modern computing to organize and analyze data, and statisticians command specialized tools. However, the emphasis is on understanding the data and on the problem to be solved rather than on computing for its own sake.

## ... But Understanding the Data Is Crucial

Statisticians use data visualization, exploratory data analysis, data analytics techniques to understand the data. Without analytics, data is just noise. Statisticians also collaborate and consult with people in the subject area, such as in medicine or in a manufacturing plant or in a market research team, to understand the data setting and to draw statistical inference.

# Top Reasons to Specialize in Statistics at NIU

The Division of Statistics faculty are renowned and strongly active in research in statistical methodology and diverse applications of statistics in fields including biomedicine, high dimensional and large data problems, nanotechnology, pharmaceutical science, genetics, insurance, quantitative risk management and quality control.

- ◆ The success rate of our graduates in **employment is high**. Our alumni have been employed at companies and universities including AbbVie Pharmaceutical Inc., Allstate Insurance, Discover Financial, Eli Lilly and Co., Fox Chase Research Center, Nielson Media Research, UC-Berkeley, Medical University of South Carolina, Rush University Medical Center, and Valence Health.
- ◆ Students in our graduate programs have the experience of Engaged Learning in the graduate level course on Statistical Consulting. In the Statistical Consulting Services (SCS), students engage in **real-world statistical consulting experience with faculty guidance**.
- ◆ Our graduate course provide **experience in many different statistical software packages** including SAS and R. Expertise in these packages is currently in high demand in data sciences.
- ◆ As a graduate student you may have the opportunity to pursue **internship opportunities** during the course of your graduate studies. Past graduates have served internships at AbbVie Pharmaceutical Inc, Merck Pharmaceutical Co., University of Illinois at Chicago and the Van Andel Institute. Completing an Applications-Involvement internship is a requirement for the Ph.D. degree.

