

# Statistics

## What is Statistics?

Statistics is the practical science of dealing with data—information in the form of numbers, often from many sources. In this major, you study the most efficient ways to collect data and to analyze and interpret it. Statistics, which forms the backbone of all research methods, includes the study of experimental design, regression analysis (the relationships between measurements), probability, and sampling theory. A statistician's primary tools are mathematics and computers. Science and logic underlie their thinking.

## Occupational opportunities

Statisticians work in a wide variety of areas, including manufacturing, pharmaceuticals, insurance, government agencies, consulting firms, and agricultural research. Statistics majors also find jobs in actuarial science, statistical programming, operations research, and mathematical analysis. A graduate degree can increase your career opportunities. Some of the career opportunities available to statistics majors include:

- Accountant/auditor
- Actuary
- Bank officer
- Bookkeeper
- Financial analyst
- Financial planner
- Investment banker
- Psychologist
- Statistician

## Career Snapshot: Statistician

### Two years

Individuals with only undergraduate degrees enter data, perform simple analysis, and summarize internal reports. These tasks involve limited responsibility and are done under rigorous supervision. Satisfaction is lowest in the early years, and the hours can be long for individuals who keep up with professional reading and continue to educate themselves about their field. Individuals with graduate degrees are more likely to be assigned interesting tasks, but these first two years can be a time of menial tasks for all.

### Five Years

Many statisticians spend five or more years at a single firm learning their profession. By this time, they usually have graduate degrees, and many of them plan and supervise projects. A majority of statisticians supervise researchers, analyze data, and write reports. They concentrate on producing quality work and getting published in professional or academic journals. Professional education is important during this period and includes attending conferences or lectures during people's free time. Satisfaction is high; salaries increase significantly.

### Ten Years

Ten-year veterans have a good deal of job mobility and begin seeking new positions that make use of their now-substantial skills. Many statisticians move from smaller companies to larger ones, or from statistician to executive positions. Many of them plan and direct research projects. Satisfaction is high, and salaries increase, particularly in the private sector.

**The Statistics and Computer Information Systems Department is located on the eleventh floor of the Newman Vertical Campus in room 11-220. You can contact them at (646) 312-3350.**

## Skills and Abilities

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Beyond the obvious mathematical skills that accountants use, the ability to quickly and accurately interpret facts and figures is essential. Good oral and written communication skills are also important, whether it be to prepare financial reports or to convey information to clients and management. Accountants often have to learn new rules and regulations because of changing requirements and laws, and thus must be very adaptable. Students interested in this field should be very interested in working with numbers and being able to categorize tasks in orderly and systematic ways to reach practical fiscal solutions. They should be detail oriented and highly accurate. Budgeting and monitoring monetary and fiscal operations can be anticipated tasks. Accountants are typically practical, detail-oriented, dependable, stable, organized, and thorough. They are usually comfortable with consistent daily routines.

### Related Major Skills & Characteristics

- Numerical computation
- Analyze and interpret data
- Critical thinking
- Computer literacy
- Systemizing skills
- Efficient and accurate
- Works independently or in teams
- Logical thinking
- Problem solver
- Organized and detail oriented
- Strong oral and written communication
- Possesses integrity, honesty, and thoroughness
- Committed to professional ethics

## Additional Resources

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U.S. Government's Occupational Outlook Handbook

<http://stats.bls.gov/oco>

American Statistical Association

1429 Duke Street

Alexandria, VA 22314

888-231-3473

703-684-2037

[www.amstat.org](http://www.amstat.org)

Icrunchdata.com

a website containing a wealth of information for those interesting in statistical careers

[www.icrunchdata.com](http://www.icrunchdata.com)

Statistics.com

Online professional development courses in statistics.

Contains a job bank as well.

[www.statistics.com](http://www.statistics.com)

Revised and updated by LS&JM 07/08. Information was obtained from the following sources:

The College Board Book of Majors. (2004); The Princeton Review Guide to College Majors (2005 Edition); The College Majors Handbook by N.P. Fogg, P.E. Harrington, & T.F. Harrington (1999 & 2004 Editions); The College Board Guide to 150 Popular College Majors (1992); Vault College Career Bible (2005 Edition); Quick Guide to College Majors & Careers by L. Shatkin (2002).