What can I do with a major in...

Statistics

ACTIVITIES STATISTICS MAJORS DO:
Statistics is the science and art of enhancing knowledge in the face of uncertainty through modeling, predictions, and decisions. It is central to solutions of problems in the environment, medicine, law, industry, technology, finance, business, public policy, computing, and science in general. The need for statistics applies to almost every area of our lives.

Statisticians contribute to scientific inquiry by applying their mathematical and statistical knowledge to the design of surveys and experiments; the collection, processing, and analysis of data; and the interpretation of the results. Statisticians may apply their knowledge of statistical methods to a variety of subject areas, such as biology, economics, engineering, medicine, public health, psychology, marketing, education, and sports. Many economic, social, political, and military decisions cannot be made without statistical techniques, such as the design of experiments to gain federal approval of a newly manufactured drug. Statistical procedures based on scientific sampling have become basic tools in diverse fields as weather forecasting, opinion polling, biological and agricultural estimation, and business trend prediction. Statisticians are in demand wherever quantitative studies are conducted.

While some jobs related to statistics require a bachelor’s degree, many research-oriented statisticians pursue advanced degrees.

INDUSTRIES STATISTICS MAJORS WORK IN (SAMPLE LISTING):
- Agriculture
- Epidemiology
- Management
- Law
- Consulting
- Government
- Banking
- Product reliability
- Financial services
- Manufacturing
- Public health
- Clinical trials
- Biostatistics
- Environmental consulting
- Research
- Insurance
- Higher education
- Quality improvement
- Marketing
- Sports
- Environmental research
- Computer information technology
- Pharmaceuticals
- Database marketing

EMPLOYERS WHO HIRE STATISTICS MAJORS (SAMPLE LISTING):
- Cetero Research
- Towers Watson
- OptiMetrics, Inc.
- Polar Semiconductor, LLC
- Stat-Ease
- DCM
- Intel Corp.
- Accenture
- Pearson VUE
- Travelers Insurance
- Express Scripts
- Xcel Energy
- MN Department of Revenue
- Questar Assessent, Inc.
- Allianz Life
- Nonin Medical, Inc.
- PricewaterhouseCoopers
- Nash Finch Company
- Sanford Health
- U.S. Bank
- Northwestern Mutual

TYPES OF POSITIONS FOR STATISTICS MAJORS (SAMPLE LISTING):
- Statistician: Applies mathematical and statistical knowledge to the design of surveys and experiments.
- Actuary: Deals with the financial impact of risk and uncertainty. Actuaries mathematically evaluate the likelihood of events and quantify the contingent outcomes in order to minimize losses.
- Budget analyst: Develops, analyzes, and executes budgets, as well as estimates future financial needs for private businesses, nonprofit organizations, and government agencies.
- Mathematician: Uses mathematical theory, computational techniques, algorithms, and the latest computer technology to solve economic, scientific, engineering, and business problems.
- Insurance underwriter: Decides whether insurance is provided and, if so, under what terms. Insurance underwriters identify and calculate the risk of loss from policyholders, establish who receives a policy, determine the appropriate premium, and write policies that cover this risk.
TYPES OF POSITIONS FOR STATISTICS MAJORS (Continued):

- **Management analyst**: Analyzes and proposes ways to improve an organization's structure, efficiency, or profits.
- **Production analyst**: Analyzes systems, reviews production work orders to ensure accuracy, completes weekly and monthly production activity reports, and resolves inventory imbalances.
- **Actuary scientist**: Responsible for assessing the risk involved with various business initiatives.
- **Associate scientist**: Plays a role in collecting and analyzing statistical data on scientific research projects.
- **Statistical consultant**: Works with companies and organizations to analyze research and data.
- **Management analysis**: Studies and analyzes business-related problems, synthesizing information from many sources to recommend solutions.
- **Database administrator**: Works with database software to develop and implement ways to manage and store data.
- **Survey researcher**: Gathers information and statistical data to help companies understand what types of products people want, who will buy them, and at what price.
- **Operations research analyst**: Helps managers make better decisions and solve problems through applying mathematical modeling methods to develop, interpret, and implement information.
- **Economist**: Studies how society distributes resources to produce goods and services. Economists conduct research to develop forecasts on a wide variety of issues, including energy costs, inflation, interest rates, exchange rates, business cycles, taxes, employment levels, and more.

**Some of these positions may require an advanced degree.**

USEFUL WEBSITES FOR STATISTICS MAJORS:

- Department of Statistics [stat.umn.edu](http://stat.umn.edu)
- The World’s Leading Data Job Board [icrunchdata.com](http://icrunchdata.com)
- Institute of Mathematical Statistics [imstat.org](http://imstat.org)
- International Statistical Institute [isi-web.org](http://isi-web.org)
- National Institute for Statistical Sciences [niss.org](http://niss.org)

PROFESSIONAL ORGANIZATIONS:

- International Association for Statistical Computing (IASC) [stat.unipg.it/iasc](http://stat.unipg.it/iasc)
- American Statistical Association (ASA) [amstat.org](http://amstat.org)
- American Mathematical Society (AMS) [ams.org](http://ams.org)
- Association for Women in Mathematics (AWM) [awm-math.org](http://awm-math.org)
- Institute of Mathematical Statistics (IMS) [imstat.org](http://imstat.org)
- Mathematical Association of America (MAA) [maa.org](http://maa.org)
- Society of Actuaries (SOA) [soa.org](http://soa.org)

*Additional job/internship search websites and resources can be found at cse.umn.edu/career*

Information on this page was compiled from the Occupational Outlook Handbook, the Encyclopedia of Careers and Vocational Guidance, University of Minnesota departmental websites, and student-reported data.