STATISTICS

What can I do with this major?

AREAS	EMPLOYERS	STRATEGIES
GOVERNMENT Design Surveys and Methodology Implement Experiments/Conduct Field Work Collect, Process, and Analyze Data Interpret Results Clinical Trial Analysis Reliability and Quality Control Operations Research Areas of Research Include: Census Education Ecology and Environment Forestry Government Regulation Law National Defense Public Health Population Risk Assessment	Federal government including: Bureau of Economic Analysis Bureau of Labor Statistics Centers for Disease Control and Prevention Census Bureau Department of Agriculture Department of Commerce Department of Defense including: Army Research Office Office of Naval Research Department of Energy: Office of Energy Research Department of Health and Human Services Department of Justice Environmental Protection Agency Food and Drug Administration National Institutes of Health National Science Foundation National Institute of Standards and Technology National Security Agency Nuclear Regulatory Commission State and local government	Approximately 20% of statisticians work for the federal government, and they are found in nearly all agencies and departments. An additional 10% work in state and local governments. Plan to earn a master's or doctoral degree to qualify for most "statistician" jobs. Some positions are available for students with bachelor's degrees in statistics. Develop a strong background in computers because they are used extensively for statistical applications. Hone writing and presentation skills. Assist professors with research projects to gain experience collecting and analyzing data. Complete an internship with a government organization. Learn about the government hiring process and plan to apply early. Research special hiring authorizations to be hired and promoted more quickly.
HEALTH AND MEDICINE Biomedical Research Biostatistics/Biometrics Biopharmaceutical Statistics Pharmacology Clinical Trials Epidemiology Genetics Public Health Animal Health Health Economics Market Research	Pharmaceutical companies Biotechnology firms Hospitals National laboratories Government agencies such as: Centers for Disease Control and Prevention Food and Drug Administration National Institutes of Health National Center for Health Statistics World Health Organization Research universities	Supplement curriculum with courses such as biology, chemistry, ecology, and other natural sciences. This area of statistics blends medicine and mathematics/statistics. Plan to earn a master's or doctoral degree in statistics, public health, epidemiology, related field. Seek experience with a statistical software package and learn a programming language. Learn to work well on interdisciplinary teams. Complete a relevant internship to gain experience and to test interest in field.

AREAS	EMPLOYERS	STRATEGIES
HEALTH AND MEDICINE		
Technical Writing	Animal health industry Scientific journals Consulting firms	Develop strong written and verbal communication skills. Statisticians in this field may frequently write technical reports and give presentations.
INDUSTRY		
Quality Control Reliability Product Testing Product Development and Improvement Management of Assets and Liabilities Risk Assessment Financial Planning Market Research Operations Research Purchasing Management Engineering Applications Research Including: Agricultural Environmental Biological Chemical Computer Science Statistical Computing Data Processing Services Technical Writing Science Journalism Sports Statistics	Research centers and laboratories Pharmaceutical and biotechnology firms Environmental clean-up firms Chemical companies Software developers Computer companies Internet companies Engineering firms Manufacturers Logistics firms Transportation companies Communications industry Utility companies Financial institutions Insurance companies Consumer marking firms Statistics agencies Data collection services Consulting firms Nonprofit organizations	Nearly all industries have a need for statisticians. Conduct informational interviews with professionals in a variety of settings to help determine career goals. Take a well-rounded selection of courses depending upon areas of interest, e.g. business or science. Plan to earn a master's or doctoral degree for higher level positions. Gain relevant experience through internships. Develop a strong background in computers because they are used extensively for statistical applications. Learn to work well both independently and on interdisciplinary teams. Develop the ability to communicate statistical aspects of business decisions to a wide array of people. Regarding sports statistics: few statisticians work full-time in this field. Some may be hired by professional sports teams or major television networks. Many in this field are paid per game. Start gaining experience in the field by volunteering or working part-time for local high schools and college sports programs. Seek an internship in sports statistics.

AREAS	EMPLOYERS	STRATEGIES
OPERATIONS MANAGEMENT		
Operations Research Analysis: Business strategy Facilities layout Inventory control Personnel scheduling Production Management: Line supervision Manufacturing management Production planning Quality assurance Materials Management: Purchasing/buying Traffic management Inventory management	Manufacturers Industrial organizations Service organizations Logistics firms Airlines and other transportation companies	Develop strong analytical skills and a logical approach to problem solving. Take additional courses in management. Acquire skills in budgeting and cost management. Learn to manage multiple situations and problems. Develop the ability to communicate effectively with different types of people in various functional areas. Earn an MBA to reach higher levels of operations management.
BANKING AND FINANCE		
Corporate and Consumer Credit Analysis Commercial Lending Trust Management Capital Services and Mergers and Acquisitions Mortgage Loans Originations and Packaging Branch Management Operations Cash Management Credit Scoring and Risk Management Private Banking Financial Analysis Investment Banking	Commercial banks Credit unions Savings and loan associations Savings banks Mortgage banks Captive finance companies Regulatory agencies including: Federal Reserve Federal Deposit Insurance Corporation (FDIC) Office of the Comptroller of the Currency (OCC) Office of Thrift Supervision (OTS) Brokerage firms	Build a solid background in business including marketing, finance, and accounting. Gain experience through part-time, summer, or internship positions in a financial services firm. Develop strong interpersonal and communication skills in order to work well with a diverse clientele. Plan to earn an MBA to enter investment banking. Research professional certifications that may be valuable in this field.

AREAS	EMPLOYERS	STRATEGIES
INSURANCE Actuary Science Risk Management/Assessment Loss Management/Control Underwriting	Insurance carriers Insurance agents and brokers Professional, scientific, and technical consulting firms Government agencies	Take additional courses in mathematics and finance. Complete an internship with an insurance agency to gain relevant experience. Talk to professionals in the industry to learn more about claims, underwriting, and risk management. Many entry-level positions exist in these areas. Develop strong communication skills, as many positions require interaction with others and the ability to explain information clearly and concisely. Learn how to use statistical analysis software and various computer programming languages. More than half of actuaries work for insurance carriers. Plan to take a series of actuarial exams to gain licensure from either the Society of Actuaries or the Casualty Actuarial Society. The type of insurance you deal with will determine which path to pursue. Most actuaries take these exams while working full-time, and the process takes several years.
EDUCATION Teaching Research	Colleges and universities	Plan to earn a doctoral degree. Maintain a high undergraduate GPA and secure strong recommendations from faculty. Volunteer to assist a faculty member with his or her research or find a part-time job as a research assistant.

GENERAL INFORMATION

- Statistics can be used in a wide variety of fields within science, technology, business, medicine, and social sciences. Gain knowledge or take courses in a specific field of interest, such as medicine or finance, to pair with skills in statistics, math, and computers.
- The job outlook for statisticians is very strong because businesses have more access to data than ever before and that data requires analysis.
- Most "statistician" and upper level research jobs in either government or industry will require at least a master's degree.
- An undergraduate degree in statistics can be used in a variety of business settings if combined with relevant experience and skills. Choose concentrations or minors that will enhance a degree in statistics. Take courses in forecasting and applied time series which are particularly sought after by employers. Plan to complete one or more internships.
- Some positions in business, such as sales and management, are open to any major. Seek experiences and build skills that will help you prepare for these jobs.
- Strong communication skills are critical in the field of statistics in order to communicate statistical information clearly to people who do not have technical backgrounds. Writing and presentation skills are also frequently used.
- Get involved with campus organizations to build leadership and teamwork skills.
- Conduct informational interviews with professionals in fields of interest to learn more about their work and to build a network of contacts.
- To prepare for graduate school, maintain a high grade point average and secure strong faculty recommendations.
- Statistics can be a good preparation for graduate degrees in other fields such as law, business, or public health.
- Join the American Statistical Association and use its website as a resource to research career opportunities.