

## Mathematics-Statistics?

**Statistics programs**<sup>1</sup> teach individuals to apply mathematical principles to the collection, analysis, and presentation of data. Statisticians contribute to scientific inquiry by applying their mathematical and statistical knowledge to the design of surveys and experiments; collection, processing, and analysis of data; and 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, marketing, education, sports, and psychology. Statisticians use statistical techniques to predict population growth or economic conditions; develop quality control tests for manufactured products; assess the nature of environmental problems; analyze legal and social problems; or help business managers and government officials make decisions and evaluate the results of new programs. Some statisticians develop new statistical methods.

**The program at Montana State University**<sup>2</sup> prepares students for employment in business, industry, or government or for graduate work in statistics. Students are trained in principles of quantitative reasoning. They learn how to discover patterns in data, how to display data, how to construct statistical models for data, and how to detect biases and uncertainties in data summaries or models. They are taught to design and analyze observational studies, surveys, and scientific experiments.

**Characteristics associated with success include**<sup>1</sup> an interest in solving problems and puzzles, and enthusiasm in working with numbers, equations, and algorithms.

### **You should**<sup>1</sup>:

- have good computational skills
- be proficient in organizing, synthesizing, and analyzing numerical data
- be logical and orderly in your thinking
- be able to communicate well, both orally and in writing
- enjoy technical writing
- have an ability to work alone or as part of a team
- be able to conduct and interpret research studies

**Occupations in this field require the ability to:** use computer applications for statistical computations and analysis, and to explain data to various constituents and individuals in a clear, concise manner.

### **Related occupations include**<sup>1</sup>:

- Mathematician
- Actuary
- College/University Faculty
- Data Systems Officer
- Research Analyst
- Computer Systems Analyst
- Computer Programmer
- Database Administrator
- Economist
- Operations Research Analyst
- Market & Survey Researcher
- Personal Financial Advisor
- Financial Analyst
- Secondary Education Teacher

# What Can I **Do** With a Major In...

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*MSU graduates (Bachelor's degree) were hired in the following selected fields<sup>3</sup>:*

Laboratory Statistician- Firefly Energy  
Statistic Assistant- Montana State University  
Statistician- Abbott Laboratories, Internal Revenue Service, Safeco Insurance Co.  
Manufacturing Associate- Powerhouse Technology  
Quality Assurance Engineer- RightNow Technologies

**Salary averages of survey respondents: (# of respondents in parentheses)<sup>3</sup>**

<b>2007: MT: Insufficient Data</b>	<b>Out of State: Insufficient Data</b>
<b>2006: MT: Insufficient Data</b>	<b>Out of State: Insufficient Data</b>
<b>2005: MT: Insufficient Data</b>	<b>Out of State: Insufficient Data</b>
<b>2004: MT: Insufficient Data</b>	<b>Out of State: Insufficient Data</b>

**Graduates from this program entered programs of further education at these institutions:**

Montana State University	Colorado State University
Oregon State University	University of Wisconsin

### **Other Sources of Information:**

American Statistical Association (ASA): [www.amstat.org](http://www.amstat.org)  
International Statistical Institute (ISI): [www.cbs.nl/isi](http://www.cbs.nl/isi)  
Society of Actuaries (SOA): [www.soa.org](http://www.soa.org)  
Society of Industrial and Applied Mathematics (SIAM): [www.siam.org](http://www.siam.org)  
Occupational Outlook Handbook: [www.bls.gov/oco/home.htm](http://www.bls.gov/oco/home.htm)  
Department of Mathematical Sciences, Montana State University: [www.math.montana.edu](http://www.math.montana.edu)

For more information contact:



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Bozeman, MT 59717  
(406) 994-4353  
[www.montana.edu/careers](http://www.montana.edu/careers)

<sup>1</sup>University of Oregon. 2007. Created by intoCareers, a unit of the University of Oregon. Montana information Montana Career Information System. Discover: 2008 by ACT, Inc.

<sup>2</sup>Montana State University Department of Mathematical Science

<sup>3</sup>Montana State University Career & Internship Services

Number of graduates/number of respondents: 2004: N/A; 2005: 1/1; 2006: 2/2; 2007: N/A