



Major to Career Guide

Mathematics

Degree: Bachelor of Science

Introduction

Mathematics offer a wide range of career opportunities for those entering the field. It is the broadest of all scientific fields, which lends itself to many work applications. There are two fields of mathematics--pure and applied. Pure (or theoretical) mathematics involves developing new principles and new relationships between existing principles of mathematics. These mathematicians are frequently employed in colleges, universities, and advanced research facilities as teachers, writers, and researchers. Applied mathematicians develop theories, techniques, and approaches to solving practical problems such as analyzing the mathematical and statistical concepts required to launch a satellite or estimating the effects of new drugs on diseases. Select from three emphases.

The applied statistics emphasis focuses on statistical foundations and their applications to problems in varied disciplines, e.g., business, agriculture, medicine, law, literature, psychology and other social sciences.

The liberal arts emphasis permits students to acquire the standard concepts of undergraduate mathematics including calculus, linear and abstract algebra, discrete mathematics, probability and statistics. See the Secondary Endorsement Programs Major to Career Guide for more information about the mathematics secondary teaching emphasis.

What are some potential occupations?

Accountant
Actuary
Air Traffic Controller
Appraiser
Architect
Astronomer
Ballistics Expert
Banker
Cartographer
City Planner
Claims Adjuster
Computer Programmer
Construction Inspector
Credit Manager
Data Analyst
Economist
Engineer
Environmental Scientist
Financial Analyst/Planner
Geologist
Geographer
Geophysicist
Internal Revenue Agent
Market Research Analyst

What are some of the job tasks?

- Analyze mathematical concepts for problem-solving
- Analyze relationships between variables
- Review and analyze data

What are some desirable personal qualities?

- Patience and persistence
- Ability to apply basic principles to new types of problems
- Ability to think logically
- Creativity and an analytical mind
- Knowledge of computer programming
- Good reasoning ability

Who hires?

- Banks
- Business Corporations
- Educational Institutions
- Insurance Companies
- Telecommunications Firms
- Test Development Corporations
- Weather Bureaus
- Market Research Firms

Additional information

Experience acquired through internships or cooperative education programs can prove valuable in obtaining full-time employment after graduation.

Mathematicians should have substantial knowledge of computer programming.

For work in applied mathematics, training in the field in which the mathematics will be used is very important.

A double major in mathematics and computer science is particularly desirable.

Path to Ultimate Career Guide

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