

Mathematics

Bachelor of Science

What is Math?

Mathematics is a language and methodology for classifying, studying, and predicting patterns: patterns of quantity, of structure, of change, of logic. Applied mathematics is the use of mathematical language and methods to understand real-world phenomena and to solve real-world problems, while computational mathematics involves numerical and statistical methods better suited to computers to carry out.

Thus, an applied and computational mathematics degree gives students a firm understanding of mathematics and its applications to science and engineering in the 21st century. The degree provides students with a strong foundation of knowledge and skill in the core areas of analysis, differential equations, numerical methods and modeling. Students will also attain a basic understanding of probability, statistics, algebra and programming. The degree will prepare students to work in such areas as defense technology, business, robotics, public policy and biomedicine.

What does a mathematician do?

A mathematician is a problem solver. An applied mathematician uses mathematical theory and technique to critically analyze and solve problems in business, government, engineering and the social sciences.

Careers

Some duties that a mathematician might do in their career include:

- Analyze ways to schedule airline routes between cities
- Analyze the effects and safety of a new medication
- Analyze the aerodynamic characteristics of an experimental automobile
- Work in computer programming or software engineering
- Test weapons and defense systems
- Market research and big data
- Manage hedge funds or analyze financial markets

While an engineering or science degree focuses on developing theories and methods to solve a specific class of real-world issues and phenomena, mathematics provides a powerful method for posing and solving problems in general. As a result, a mathematics degree naturally complements an engineering degree: an engineering degree will get you a job; a mathematics degree will get you a promotion. As a result, mathematics is the most popular double major at SD Mines.

For more information: <https://www.sdsmt.edu/Academics/Degrees/Mathematics/>



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