Applied Mathematics

Applied Mathematics and Computational Science

Research:

- Theoretical
- Applied

Mathematical specialties:

- Modeling and simulation
- Numerical methods and analysis
- Statistics and probability
- Engineering analysis
- Differential equations
- Operations research
- Discrete mathematics

Functional Areas Include:

- Accounting and finance
- Computer programming
- Computer systems
- Analysis operations
- Sales and marketing management
- Actuarial science
- Engineering
- Analysis and control of processes
- Optimization and scheduling of resources

Applied Mathematics Employers

- State government agencies
- Federal government:
  - National Security Agency
  - Department of Defense
  - National Aeronautics and Space Administration
  - National Oceanic and Atmospheric Administration
  - Social Security Administration
  - Department of Homeland Security
  - Department of Energy
  - Military
  - Government laboratories
- Scientific research and development services
- Consulting firms
- Computer services companies, software publishers and manufacturers
- Engineering firms
- Insurance companies
- Financial services firms
- Chemical and pharmaceutical companies
- Aerospace and transportation equipment manufacturers
- Airlines and airports
- Energy companies and petroleum producers
- Nonprofit organizations (e.g., American Institute of Mathematics, Mathematical Association of America, American Mathematical Society)

Applied Mathematics Strategies

- Consider earning a double major in a scientific or technical area. Many students with a bachelor's or master's degree in math work in related fields such as computer science, engineering, science, or economics.
- Some entry-level jobs in industry and government may be available at the bachelor's level.
- Develop substantial knowledge of computer programming and software administration. Seek experience with relevant software packages.
- Learn to work well with a team of people from diverse backgrounds and differing technical specialties.
- Gain experience in an area of interest through internships or research programs such as those sponsored by the National Science Foundation.
- Maintain a high grade point average and secure strong faculty recommendations to gain graduate school admittance.
- Research government hiring processes and internship opportunities if the public sector appeals to you.

General Applied Mathematics Information

Math can be found in almost every sector of the world of work. Students majoring in math should consider if they want to use math skills directly or indirectly in the work place. This may determine the types of experiences and further education necessary to prepare for area of interest.

People with math backgrounds may work in jobs with titles such as analyst, research associate, technical consultant, computer scientist, or systems engineer to name a few.

Math majors develop many transferable skills: critical thinking, problem diagnosis and solving, computer skills, and quantitative skills. Other important skills to develop include good reasoning, persistence, and communication, both verbal and written.