What is Mathematics?

Mathematics is the study of the measurement, properties, and relationships of quantities and sets, using numbers and symbols. It is a body of related courses concerned with knowledge of measurement, properties, and relations quantities, which can include theoretical or applied studies of arithmetic, algebra, geometry, trigonometry, statistics, and calculus.

Mathematicians have an opportunity to make a lasting contribution to society by helping to solve problems in such diverse fields as medicine, management, economics, government, physics, and psychology.

Related Career Titles

Accountant  Contract Administrator  Information Scientist
Actuary  Cost Estimator/Analyst  Investment Banker
Aerospace Engineer  Cryptographer/Cryptologist  ISO 2000 Specialist
Air Traffic Controller  Data Control Administrator  Market Research Analyst
Applications Programmer  Data Processing Manager  Mathematician
Applied Science Technologist  Database Manager  Media Buyer
Artificial Intelligence  Demographer  Meteorologist
Astronomer  Econometrician  Mortgage Researcher
Banking/Credit/Invest. Mgr  Economist  Network Programmer
Biometrician/Biostatistician  EDP Auditor  Numerical Analyst
Commodity Manager  Employee Relations  Operations Research Analyst
Compensation/Benefits Adm  Engineer  Physicist
Computer Consultant  Engineering Lab Technician  Pollution Meteorologist
Computer Engineer  Environmental Technologist  Production Manager
Computer Facilities Mgr  Estate Planner  Production Support
Computer Installation  External Auditor  Psychometrician
Computer Marketing Rep  Financial Auditor  Public Health Statistician
Computer Programmer  Financial Consultant  Purchasing/Contract Agent
Computer Scientist  Financial Manager  Quality Assurance Analyst
Computer-Aided Design Tech.  Hydro Geologist  Rate Analyst
Loan/Credit Officer  Hydrologist  Teacher
Research Analyst  Software Support Specialist  Technical Writer
Risk & Insurance Specialist  Statistician  Transportation Planner
Robotics Programmer  Systems Engineer  Underwriter
Satellite Communications  Systems Programmer  Value Engineer
Software Developer  Urban Planner  Weight Analyst
Industrial/Institutional Buyer  Mathematics Editor
Related Major Skills

Problem solving  Organizational skills  Numerical computation
Ability to analyze & interpret data  Critical thinking  Computer literacy
Logical thinking  Team skills  Efficient
Systemizing skills  Advanced quantitative skills  Testing skills

Job & Internship Search Links
American Mathematical Society undergraduate resources
CareerConnect UMass Amherst internship and job database
https://umass.experience.com/er/security/login.jsp
Internships and Co-ops www.ams.org/employment/internships.html
Jobs for Mathematics www.mathjobs.org/jobs
Jobs in Computational Fluid Dynamics www.cfd-online.com
Math Jobs http://math-jobs.com/us
Mathematics Research Experiences for Undergraduates (REU)
http://mathforum.org/students/college/opps.html
Massachusetts State Government jobs http://www.mass.gov/portal/
Society for Industrial and Applied Mathematics http://www.siam.org/careers/
Summer Mathematical Program for Women Undergraduates http://www.math.carleton.edu/smp/

Career Planning Links
Career Fields http://career.berkeley.edu/Infolab/CareerFields.stm
Careers in math http://www.cln.org/themes/careers_math.html
Career Resources www.awm-math.org
Careers in Science & Engineering- A Student Planning Guide to Grad School and Beyond
http://www.nap.edu/readingroom/books/careers/
Internships at NASA http://www.nasajobs.nasa.gov/studentopps/employment/default.htm
Math Archives http://archives.math.utk.edu/undergraduates.html#careers
Mathematical Association of America http://www.maa.org/careers
Mathematics of Cartography http://math.rice.edu/~lanius/pres/map/mapcar.html


PLUS Magazine (math journal) - great descriptions of job options http://www.pass.maths.org


Science Careers Web http://www.sciencecareersweb.net/

Sloan Career Cornerstone Center-Career planning resources in science, technology, engineering, mathematics, computing and healthcare. http://www.careercornerstone.org/

Women in NASA http://quest.arc.nasa.gov/women/intro.html

**Professional Associations**

- American Mathematical Society http://www.ams.org
- American Statistical Association http://www.amstat.org
- Association of Women in Mathematics www.awm-math.org/ads.html
- Casualty Actuarial Society Career Center http://careers.casact.org/home/index.cfm?site_id=2829
- Computing Research Association http://cra.org
- Intelligent Information Systems http://www2.renewal-iis.com
- Mathematical Association of America http://www.maa.org
- National Council of Teachers of Mathematics http://www.nctm.org
- Society for Industrial and Applied Mathematics http://www.siam.org
- SAS http://www.sas.com

**Miscellaneous Resource:**

- Mathematics on the Web http://www.ams.org/mathweb/
- Mathematical cartoons and jokes http://www.csun.edu/~hcmth014/comicfiles/allcomics.html