

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

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

<http://www.ams.org/programs/students/undergrad/undergrad> and <http://www.ams.org/employment>

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/>

National Security Agency Careers <http://www.nsa.gov/careers/>

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

Cool Math: careers in math <http://www.coolmath.com/careers.htm>

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>

Occupational Outlook Handbook <http://stats.bls.gov/oco/ocos043.htm>

O Net On-Line <http://www.onetonline.org/find/quick?s=math>

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

US Department of Energy Career Intern Program
http://humancapital.doe.gov/pers/cip/applicant/index_applicant.htm

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>

IEEE Computer Society <http://www.computer.org/pubs/computer/career/career.htm>

Institute of Mathematical Statistics <http://imstat.org/en/index.html>

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>

Society of Actuaries <http://11www.soa.org/>

SAS <http://www.sas.com>

US Census Bureau <http://www.census.gov/hrd/www/index.html>

Miscellaneous Resource:

Mathematics on the Web <http://www.ams.org/mathweb/>

Mathematical cartoons and jokes <http://www.csun.edu/~hcmth014/comicfiles/allcomics.html>