MATH....NOW WHAT?

What Do Mathematicians Do?
Many mathematicians work in academia, earning a Master’s degree and teaching at the elementary or high
school level, or earning a PhD in their field and teaching at a college or university. But mathematicians work in
many other fields, including astronomy and space exploration, climate research, medicine, national security,
robotics, animated film, and in a wide range of businesses.

Check out the American Mathematical Society’s undergraduate resources
http://www.ams.org/programs/students/undergrad and http://www.ams.org/employment for more
information on careers in math.

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WHAT ELSE CAN YOU DO WITH A MATH DEGREE?

- **Actuarial and Insurance**
  - Actuary
  - Benefits Specialist
  - Financial Analyst
  - Investment Analyst

- **Computer and Information Sciences**
  - Applications Programmer
  - Computational Scientist
  - Computer Applications Software Engineer
  - Computer Programmer
  - Computer Systems Analyst
  - Cryptanalyst
  - Database Administrator

- **Teaching/Academic Research**
  - College or University Professor
  - Community College Instructor
  - Teacher

- **Operations Research**
  - Operations Research Analyst
  - Systems Engineer

- **Statistics**
  - Biometrician
  - Demographer
  - Econometrician
  - Psychometrician
  - Quality Control Analyst
  - Statistician

- **Business/Industry**
  - Applied Mathematician
  - Business Analyst
  - Communications Engineer
  - Market Researcher
  - Product Developer

- **Health**
  - Biomathematician
  - Biomedical Engineer
  - Ecologist
Some of the largest industries and companies hiring math majors (check out their employment pages for internship or job opportunities)

- Government
- Banks and the finance/insurance industry
- National Security Agency
- US Census Bureau
- General Motors
- Boeing

Actuarial Careers

Here are actuarial companies that have recently recruited UMass Amherst students on campus:

- Aetna
- Anthem
- Aon
- Blue Cross Blue Shield
- Guardian Life Insurance
- MassMutual
- Oliver Wyman
- Sun life
- The Hanover
- Tufts Health Plan
- Voya

Career Planning Resources & Websites

UMass Amherst CNS Career Center   www.cns.umass.edu/careers
UMass Handshake Database of Internships & Jobs             https://umass.joinhandshake.com/
FOCUS2 Career and Education Planning   www.umass.edu/careers/planning for sign-in button
CNS Completed Research/Internships database     https://secure.cns.umass.edu/webforms/internships
What Can I Do With This Major?     https://www.umass.edu/careers/planning

(Click on “What Can I do with this Major” icon on the right-hand column.)

Math-Related Job & Internship Links

* UMass Handshake Database of Jobs & Internships https://umass.joinhandshake.com
* Summer Research Experiences for Undergraduates http://www.ams.org/programs/students/emp-reu
* Natl Science Foundation NSF Summer Research Opps https://www.nsf.gov/crssprgm/reu/reu_search.jsp
Actuarial Careers Inc, Jobs Board http://www.actuarialcareers.com/about-our-jobs/
Actuarial Jobs for Pre-ACAS http://www.actuarialcareers.com/jobs-for-pre-acas/
Association for Women in Mathematics Jobs Board http://awm-math.org/jobboard/
Casualty Actuarial Society Career Center http://careers.casact.org/jobs/
Commonwealth of Mass Jobs by Category https://massanf.taleo.net/careersection
Computational Fluid Dynamics Jobs https://www.cfd-online.com/Feeds/jobs.php
Entry-level finance jobs https://www.thebalancecareers.com/
* Federal Pathways Program Internships at NASA https://www.nasa.gov/careers
GIS Jobs Clearinghouse http://www.gisjobs.com/
MathJobs.org (Mostly academic jobs but not all) https://twitter.com/MathJobs1
MathPrograms.org (Research opportunities, grants) http://www.mathprograms.org/db/programs
Math Assoc of America Jobs Board http://www.mathclassifieds.org/jobseeker
Math Programs for Women https://awm-math.org/programs/
Mathematics Education Jobs https://nctm-jobs.careerwebsite.com/
MathREUPrograms.org https://sites.google.com/view/mathreu
Math Science Research Opportunities (MSRI-UP) http://www.msri.org/web/msri/education
National Security Agency Careers http://www.nsa.gov/careers
Summer Programs in Math http://archives.math.utk.edu/undergraduates
Summer Research Opportunities https://www.maa.org/programs/students
Teach for America Internships http://www.teachforamerica.org/
Teaching Math to Elementary & High School http://www.topusajobs.com/cgi/search.cgi?
Technology Jobs https://www.dice.com/jobs/

**Career Planning Links**
* Careers in Math http://www.cln.org/themes/careers_math.html
Career Fields in Engineering & Computer Science http://career.berkeley.edu/Engineering
Careers in Applied Math
Careers for Numbers People
Edge Program for Women Heading to Grad School http://www.learnhowtobecome.org/careers
Federal Agencies Hiring Math Majors https://gogovernment.org/career-guides/
* Find a Graduate School Program in Math Sciences
Math Archives http://www.math.utk.edu/undergraduates.html
Mathematical Association of America http://www.maa.org/careers
PLUS Magazine Careers In and With Maths http://www.pass.maths.org/content/careers
Sloan Career Cornerstone Center http://www.careercornerstone.org/
Society for Industrial and Applied Mathematics
What Do Mathematicians Do?

**Professional Associations**
American Mathematical Society http://www.ams.org
American Statistical Association http://www.amstat.org
Association of Women in Mathematics http://www.awm-math.org/ads.html
Casualty Actuarial Society Career Center http://www.casact.org/
Computing Research Association http://cra.org
IEEE Computer Society http://www.computer.org/pubs/computer
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://www.soa.org/
US Census Bureau https://www.census.gov/
IMPORTANT TRANSFERABLE QUALITIES TO INCLUDE ON YOUR RESUME FOR MATH-BASED POSITIONS

**Critical-thinking skills.** Statisticians use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

**Problem-solving skills.** Statisticians must develop techniques to overcome problems in data collection and analysis, such as high nonresponse rates, so that they can draw meaningful conclusions.

**Speaking skills.** Because statisticians often work in teams, they must be able to orally communicate statistical information and ideas so that others will understand.

**Writing skills.** Good writing skills are important for statisticians because they need to explain technical matters to persons without their level of statistical expertise.

What Do Employers Look For? (NACE 2020 Job Outlook for Students)