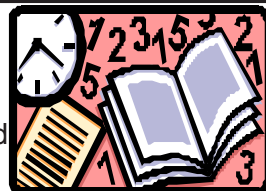


# Opportunities for...

2001-2002

# Math Majors

## What can I do with a major in Mathematics?



As this publication illustrates, you have many different career and internship options with a Mathematics major, minor or cluster. The possibilities outlined here are some of the more common ones that Mathematics majors pursue after leaving the University of Rochester. Are you interested in working in Education? Medicine? Research? Consulting? Banking? Computer Science? The first steps toward attaining these goals are outlined in the following pages.

This publication identifies potential career fields, UR alumni, academic strategies, faculty interests, useful resources, action steps, and qualification statements designed to get Math students thinking about the future. Information presented facilitates your researching career options, talking to alumni, discussing current trends with faculty, or speaking with a career counselor about internship and post baccalaureate opportunities. Those who find rewarding internships and post graduate employment set clear and realistic goals, clarifying what they want to do, where they want to do it, and the steps required to enter the field they have chosen.

A degree in Mathematics can open countless doors to many careers. Majors can continue their studies and pursue advanced degrees, conduct research, and become professors. Majors can also apply their problem solving skills in numerous fields. Problem solving and analytical skills prove to be useful in almost any situation.

Additional resources may assist you with gaining focus. Check out the Hyman J.V. Goldberg Career Library in the Career Center. Make an appointment with a counselor to critique your resume(s) or discuss your focus. Talk with your academic advisor about coursework that will enhance your career objective. Finally, discuss your career choice with a faculty member who may be able to refer you to additional resources.

UNIVERSITY OF  
**ROCHESTER**  
CAREER CENTER

Meliora Hall  
PO Box 270028 • Rochester, NY 14627  
(716)275-2366 • Fax (716)461-3093  
careers@mail.rochester.edu  
<http://www.rochester.edu/careercenter>

<b>Education</b>	Public	Private	Professor
	Research	Teach Abroad	
<b>Employers</b>	<b>Academic/Job Search Strategies</b>		<b>Alumni</b>
<ul style="list-style-type: none"> <li>Elementary, middle, and high schools,</li> <li>Universities, colleges, and community colleges</li> <li>Tutorial Services</li> </ul>	<ul style="list-style-type: none"> <li>Ph.D required for university and college faculty programs. Masters required for community colleges and elementary, middle and high school</li> <li>Investigate Opportunities with Teach for America, Teach Abroad, AmeriCorps, and/or Peace Corps</li> <li>Inquire about Teacher Assistant opportunities as an upper level student</li> <li>Speak with Warner School staff about teacher certification requirements</li> </ul>		<p>Brad Allen, Physics Teacher: East Irondequoit High School</p> <p>Leo Craiglow, Computer Coordinator: St. Margaret Mary School</p> <p>Mary Langmyer, Teacher: Rockwood School District</p>
<b>Medicine</b>	Physician	Health/Hospital Administration	
	Medical Research		
<b>Employers</b>	<b>Academic/Job Search Strategies</b>		<b>Alumni</b>
<ul style="list-style-type: none"> <li>Clinics and hospitals</li> <li>Public health departments</li> <li>Colleges and universities</li> <li>Federal laboratories</li> <li>Pharmaceutical companies</li> </ul>	<ul style="list-style-type: none"> <li>Look for related positions through student employment</li> <li>Be comfortable working with others and in groups</li> <li>Volunteer at Strong Memorial Hospital or other health facilities</li> <li>Acquire advanced degree in area of specialization</li> <li>Take pre-medical curriculum and physical sciences coursework</li> </ul>		<p>Gary Falk, Gastroenterologist: Cleveland Clinic Foundation</p> <p>Victor Agusta, Urologist: Urology Associates of Lancaster</p> <p>Eric Diamond, Chief of Internal Medicine: Harvard Vanguard Medical Associates</p>
<b>Business and Banking</b>	Policy Analysis	Operations	Investment Banking
	Research	Trusts	Credit Lending
<b>Employers</b>	<b>Academic/Job Search Strategies</b>		<b>Alumni</b>
<ul style="list-style-type: none"> <li>Commercial Banks</li> <li>Investment Banks</li> <li>Business Organizations</li> <li>Financial Services Firms</li> </ul>	<ul style="list-style-type: none"> <li>Get experience in government and/or business through internships</li> <li>Management certificate, related courses, and technical writing skills are helpful</li> <li>Develop strong analytical and computer skills</li> <li>Secure leadership roles in campus organizations</li> <li>Take coursework where formal class presentations are required</li> </ul>		<p>Jeffrey Fastov, Investment Banker: Goldman, Sachs &amp; Co.</p> <p>Nic Gorevic, Financial Advisor: Morgan Stanley Dean Witter</p> <p>Craig Bartner, Vice President: Lehman Brothers</p>

### Academic Internships

- Mt. Hope Family Center
- Center for Community Studies
- Volunteers of America
- Center for Youth Services

### Summer Internships

- The Cushman School
- The Princeton Review
- The Learning Channel
- Camp Starfish
- Crossroads for Kids
- The Partnership for Service Learning

### Related Web Sites

Warner Graduate School of Education, Programs in Secondary Education: <http://www.rochester.edu/Warner/programs/tcprogram4.html>

Professional Societies in Mathematics: <http://archives.math.utk.edu/societies.html>

National Council for Teachers of Mathematics: <http://www.nctm.org/>

American Mathematical Society: <http://www.nctm.org/>

### Academic Internships

- American Red Cross
- Strong Memorial Hospital
- Genecor International Inc.
- Marsh Bio Products

### Summer Internships

- Genetech
- National Women's Health Network
- Pediatric AIDS Foundation
- National Institutes of Health
- Participate in a Summer Research Experience through the National Science Foundation
- Hoffman-LaRoche

### Related Web Sites

#### National Institutes of Health

[www.nih.gov](http://www.nih.gov)

#### University of Rochester Medical Center

[www.urmc.rochester.edu/jobs.html](http://www.urmc.rochester.edu/jobs.html)

#### The American Medical Women's Association (AMWA)

[www.amwa-doc.org/](http://www.amwa-doc.org/)

#### The MEDguide

[www.medguide.net/](http://www.medguide.net/)

#### The Medical Anthropology Web

<http://www.medanth.org/>

### Academic Internships

- Salomon Smith Barney
- First Investors Corporation
- McDonald Investments Inc.
- Scottsdale Securities, Inc.
- Morgan Stanley Dean Witter
- Catalyst Fund Management and Research (London)
- ATTO Technology, Inc.
- H & R Block
- Robert half International
- Merrill Lynch
- Bonadio and Co. LLP
- Price Waterhouse Coopers

### Summer Internships

- Ernst & Young
- J.P. Morgan & Co.
- Citibank
- Federal Reserve Bank of New York
- United States Chamber of Commerce
- Bank of America
- US Census Bureau

### Related Web Sites

Business Job Finder  
[www.cob.ohio-state.edu/dept/fin/osu-jobs.htm](http://www.cob.ohio-state.edu/dept/fin/osu-jobs.htm)

100 Jobs on Wall Street  
[www.globalvillager.com/villager/WSC.html](http://www.globalvillager.com/villager/WSC.html)

National Banking Network  
[www.banking-financejobs.com](http://www.banking-financejobs.com)

Jobs in the Money  
[www.jobsinthemoney.com](http://www.jobsinthemoney.com)

## Computer Science and Engineering

Programmer	Operations Researcher	Systems Analyst
Software Engineer	Research Engineer	

### Employers

- Computer Software Firms
- Engineering Firms
- Manufacturing and Shipping

### Academic/Job Search Strategies

- Gain experience through internships in a technical field
- Take coursework that incorporates desired research area
- Take coursework to build computer programming or engineering abilities
- Develop strong logistical, analytical and problem solving capabilities
- Develop strong communication and presentation skills

### Alumni

Angela Fox, Sr. Programmer:  
Intel

Josh Berman, Applications  
Integrator: IBM

Tim Arrowsmith, Sr. Software  
Engineer: Sam Asher  
Computer Services

## Consulting

Strategy Consulting	Operations	Accounting
Information Technology	Human Resources	

### Employers

- Management Consulting Firms
- Independent Consulting Firms

### Academic/Job Search Strategies

- Management certificate, technical writing and public speaking skills are a plus
- Plan for an internship with a government agency or business
- Secure leadership roles within campus organizations
- Develop strong analytical and computer skills

### Alumni

**Scott Alford, Senior  
Manager: Pricewaterhouse  
Coopers**

**Johnston Beach, Senior  
Leadership Consultant: IBM**

**Stephen La Chance,  
Consultant: Accenture**

## Insurance

Actuarial	Risk Management
Sales	

### Employers

- Private Insurance Firms
- Governmental Agencies
- Consulting Firms (Benefits)
- Health Management Organizations

### Academic/Job Search Strategies

- Earn an Actuarial or Management Certificate
- Obtain information about actuarial certification examinations
- Get an internship with an insurance agency or a consulting firm
- Take coursework in statistics
- Develop strong communication and presentation skills

### Alumni

**Stewart Ashkenazy, Asst.  
Vice President and Actuary:  
Metropolitan Life Insurance**

**Elizabeth Borchert, Actuarial  
Officer: NAC Reinsurance  
Group**

**David Driscoll, Senior  
Assistant Actuary: Buck  
Consultants**

### Academic Internships

- Bergman Associates
- The Sear-Brown Group
- Erdman, Anthony and Associates
- Vanteon Corp.
- Ciber Inc.
- Ajilon LLC.
- Speion Corp.
- Questa Corp.
- Eastman Kodak

### Summer Internships

- Participate in a Summer Research Opportunity through National Science Foundation
- IBM Global Services
- Lockheed Martin
- BAE Systems
- Microsoft
- GTE
- The Gersher Summer Internship Program
- Jet Propulsion Laboratory
- Kennedy Space Center
- Dell Computer

### Related Web Sites

- Optics.Org  
[optics.org/employment/](http://optics.org/employment/)
- Engineering Jobs.Com  
[www.engineeringjobs.com](http://www.engineeringjobs.com)
- ITPapers.Com  
<http://itpapers.techengine.com/>
- IEEE Computer Society  
[www.computer.org/](http://www.computer.org/)

### Academic Internships

- American Management Systems
- Dale Carnegie Training
- ATTO Technology, Inc.
- The Sutherland Group, LTD.
- Arthur Andersen, LLP.
- William M. Mercer Inc.
- The Business Resource Link
- HR Works, Inc.

### Summer Internships

- A.E. Schwartz & Associates
- The Corporate Response Group
- Deloitte & Touche
- Ernst & Young
- The Verity Consulting Group
- Price Waterhouse Coopers
- KPMG Peat Martwick
- Accenture

### Related Web Sites

- Management Consulting Online**  
[www.cob.ohio-state.edu/~fin/jobs/mco/mco.html](http://www.cob.ohio-state.edu/~fin/jobs/mco/mco.html)
- Recruitmentnet for Consulting Jobs!**  
[www.recruitmentnet.com](http://www.recruitmentnet.com)
- Management Consulting Industry**  
<http://consulting.about.com/bu...cupations/consulting/mbody.htm>

### Academic Internships

- Northwestern Mutual Life
- State Farm Insurance Companies
- Corporate Securities Group, Inc.
- Progressive Insurance Co.
- John Hancock Mutual Life Insurance Company
- Marsh Inc.
- Amica Mutual Insurance Co.

### Summer Internships

- Aetna Life & Casualty
- The Franklin Life Insurance Company
- Insurance Services Office
- MetLife
- Northwestern Mutual Life
- US Census Bureau

### Related Web Sites

- Jobs in the Money**  
[www.jobsinthemoney.com](http://www.jobsinthemoney.com)
- Insurance Jobs**  
[www.4insurancejobs.com](http://www.4insurancejobs.com)
- Insurance Jobs by Insurance Recruiters**  
[www.nirassn.com](http://www.nirassn.com)
- Insurance Jobs Now!**  
[www.insurancejobsnow.com](http://www.insurancejobsnow.com)
- Insurance Industry Net Links**  
<http://insurance.miningo.com/msubcareer.htm>

# Suggested Academic Strategies

(in addition to or instead of a major in Mathematics)

There are suggested academic supplements and clusters related to your academic program and career interests. For more information on any of these programs or for individual assistance, please see your academic advisor.

## Education

Warner School Certificate Programs

Cluster in:

- Philosophy and Teaching Internship

## Medicine

Clusters in:

- Chemistry and Life Science
- Biological Principles
- Neurobiology
- Origins
- Biology and Behavior

## Business and Banking

Cluster in:

- Applied Economics

Certificate in Management Studies in:

- Public Policy
- Accounting/Finance

## Consulting

Clusters in:

- Organizational Psychology
- Probability and Statistics

Certificate in Management Studies in:

- Public Sector Analysis
- Accounting/Finance
- Personnel Management

## Computer Science & Engineering

Cluster in:

- Foundations of Computer Science
- Logic
- Engineering Design
- Business Computing

Certificate in Management Studies in:

- Information Systems

## Insurance

Certificate in Management Studies in:

- Accounting/Finance
- Personnel Management

Actuarial Certificate

Cluster in:

- Probability and Statistics
- Applied Statistics

# Mathematics Department Faculty

This section highlights the research and academic interests of the Mathematics Department faculty members. The Career Center staff encourages you to interact with faculty members and to consult them when considering research projects, graduate schools, and career opportunities. For office hours and locations, call the Mathematics Department at 275-8614. For more detailed information about the Mathematics Department faculty members check out their website: [www.math.rochester.edu](http://www.math.rochester.edu)

**Norman Alling, *Professor Emeritus*,**

**Florin Catrina, *Assistant Professor***

**Alfred Clark, *Professor***

**Frederick Cohen, *Professor*, Algebraic topology, group theory, surface theory, cohomology of groups, applications to physics**

**Michael Cranston, *Professor*, Stochastic processes, partial differential equations and differential geometry**

**Michael Gage, *Professor*, Differential geometry, partial differential equations, integral geometry**

**Saamel Gitler, *Professor Emeritus***

# Mathematics Department Faculty

Steven Gonek, *Professor*, Analytic number theory, especially multiplicative number theory and the theory of the Riemann zeta-function

Allan Greenleaf, *Professor*, Harmonic analysis, integral geometry, microlocal analysis

John Harper, *Professor*, Algebraic topology with emphasis on unstable homotopy theory; finite H-spaces and co-H-spaces; obstruction theory with emphasis on its computational implementation

Naomi Jochnowitz, *Associate Professor*, Algebraic number theory, modular forms, p-adic modular forms

Inga Johnson, *Assistant Professor*

Michael Knapp

Andrew Knightly

Slobodan Kojcinovic

Richard Lavine, *Professor*, Quantum mechanics, spectral and scattering theory, resonances

Saul Lubkin, *Professor*, Algebraic geometry, homological algebra, Construction of algebraic-topological like invariants in algebraic geometry

Daniel Matei, *Assistant Professor*,

Maria McDermott, *Assistant Professor*

Ken McMurdy, *Assistant Professor*

Govind Mudholkar, *Professor*

Carl Mueller, *Professor*, Probability, stochastic partial differential equations

Adrian Nachman, *Professor*, Inverse problems, partial differential equations, scattering theory

Joeseeph Neisendorfer, *Professor*

Jonathan Pakianathan, *Assistant Professor*

Jean Parks, *Professor*

Arnold Pizer, *Professor*,

David Prill, *Professor Emeritus*, Several complex variables and algorithms for real algebraic sets

Ralph Raimi, *Professor Emeritus*, Mathematics education and its history and other things

Sam Poduri Rao, *Professor*

Douglas Ravenel, *Professor and Chairman*

Sanford Segal, *Professor*, Analytic and elementary number theory, complex analysis, history of mathematics

Norman Stein, *Professor Emeritus*

How Tsao, *Professor*

For more info about anthropologists in other schools as well as visiting and adjunct faculty, see the web page at: <http://www.math.rochester.edu>

# Next Steps...

1. **Set and Articulate Goals.** Can you state what you want to do and where you want to obtain your internship or employment? This involves pResearch of fields and functions. Stop by the Hyman J.V. Goldberg Library in the Career Center to learn more about careers for Anthropology majors. The career library has excellent resources for Math majors including a wide variety of books related to internships and graduate school. If you are still unsure about your goals, make an appointment with a counselor to discuss your options including participating in the Values, Interests, Personality, and Skills (VIPS) program designed to help students articulate their goals through self-assessment and pResearch.

2. **Discuss your options with others.** Have you visited your academic advisor in Academic Support (5-2354)? Discussed possibilities with faculty members associated with the Anthropology program (see a list of faculty members on page 7)? Finally, have you visited the Career Center to use Alumni Career Source--a database that links friendly alumni with students seeking career information?

3. **Develop Job Search Tools.** Resumes, cover letters, and follow-up correspondence--project goals and qualifications via well written job search documents. The Career Center has Macs and PCs to assist you with the production of job search correspondences. In addition, the Career Center library staff is available to assist you in any stage of resume writing and an appointment with a career counselor can help fine tune any resume.

4. **Seek out opportunities for experience including internships and volunteer experiences.** Have you developed a "hit list" of potential employers using directories and other printed and on-line resources to develop a list of places you would like to work? Initially, phone communications can identify the nature of jobs and internships within organizations, the availability of opportunities, the people to contact, and the procedures to follow. As always, the career center has many resources to aid in the search for potential employers including The Job Bank series, Books of Lists, The Internship Bible and many more. Skilled professionals are available in the library and by appointment.

# Qualification Statements...

(used by Mathematics majors on their resumes)

- Excellent interpersonal skills combined with an ability to convey technical information to others in a clear fashion. (General)
- Strong analytical skills enhanced through intense curriculum in mathematics. (General)
- Ability to utilize statistical and mathematical principles in solving complex problems and identifying trends (Actuarial/Consulting/Banking)
- Strong interest in using mathematics and problem solving skills in a technical environment (Computer Science/Engineering)
- Ability to use inferential and descriptive statistical methodologies to analyze data sets (General)
- Demonstrated teaching abilities gained through teaching assistantships for undergraduate mathematics courses (Teaching)
- Knowledge of business and financial statements, complimented by quantitative/qualitative analytical skills (Business/General)

# Credits

- Information in this publication was inspired by: "Translating majors/areas of interest into career paths/fields" University of Tennessee - Knoxville Career Center, Career Center Web pages from The University at Buffalo and the State University of New York at Oswego, and *Great Jobs for Math Majors*, by Labert and DeCoits.
- Developed by Steven P. Smith and The University of Rochester Career Center Staff, 2002.