

# Mathematics (Course 18)

## Majors Guide

### Skill Set

---

- Ability to work independently and in teams
- Analyzing data
- Research
- Solving complex problems
- Critical thinking
- Curiosity
- Innovation
- Logical reasoning
- Making projections from data
- Problem-solving
- Computer modeling
- Mathematical modeling
- Statistical analysis
- Communication skills

### Possible Areas of Expertise

---

Applied Probability & Statistics	Discrete Mathematics	Neuroscience
Computer Animation & Digital Imaging	Finance	Optimization
Computational Biology & Genomics	Inverse Problems	Pattern Recognition
Computational Geometry	Mathematical Software for High Performance Computers	Quality Control
Data Mining	Materials Science	Queuing Theory

### Possible Careers

Accounting	Computer Programming	Logistics	Statistics
Actuary	Computer Operations	Management Consulting	Systems Analysis
Applied Mathematics	Cryptography	Medical Research	Systems Programming
Auditing	Finance	Operations Research	Teaching K-12
Biomathematics	Financial Engineering	Patent Law	Teaching in Higher Ed
Chief Financial Officer	Investment Banking	Software Design	Web Design

## Where Do You Want To Work?

### ? What problems do you want to solve?

Chemical or Pharmaceutical Manufacturers	Engineering Research Organizations	Non-Profits
Communications Service Providers	Energy Systems Firms	Producers of Petroleum & Petroleum Products
Computer Service & Software Firms	Federally Funded Contractors	Small Business
Consulting Firms	Financial Services Firms	University Based Research Organizations
Electronics & Computer Manufacturers	Government Labs	

## Careers of Course 18 Alumni

- Product Manager, *Oracle Corporation*
- Professor, *Yale University*
- Vice President of R&D, *Walt Disney Imagineering*
- Statistician, *University of California Berkeley*
- Financial Analyst, *GE Financial Assurance*
- Software Engineer, *IBM*
- Physician/President, *Mountain Medical Inc.*
- Deputy Attorney General, *Idaho Attorney Generals Office*
- Senior Systems Programmer Analyst, *Rand Corporation*
- Principal, *System Solutions Group*
- President, *Computer Software Consultants*
- Technical Director, *Xon Tech, Inc.*
- Vice Chancellor & Dean, *University of California Irvine*
- Director of Marketing, *HoribaSTEC Inc.*

To learn more about Course 18 alums and for contact info visit the ICAN network at <http://alum.mit.edu/cs/ican/index.html>

## Companies Who Have Hired Course 18 Alumni

Agency.com	Agilent Technologies	Akamai Technologies
Applied Physics Lab @ Johns Hopkins University	Berkshire Hathaway	Broadway Technology
Cambridge Economics, Inc	Citi	Citigroup
Deutsche Bank	Ebay/ Paypal	Group One
Goldman Sachs	Google	Hewlett-Packard
Howard Hughes Medical Institute @ Harvard Medical	Intellisense Corporation	JP Morgan
Lehman Brothers	Merck	MIT Lincoln Lab

Morgan Stanley	Naval Research Lab	Oracle Development
Paine Webber	Qualcomm, Inc.	Raytheon Systems Company
Rand	Schlumberger Trading, LP	Staples Strategic Planning
Tulane University Medical Center	United Talent Agency	Voltage Security

For more detailed information about what you can expect after graduation, visit the MIT Graduating Student Surveys at <http://web.mit.edu/career/www/infostats/graduation.html> .

## Professional Associations

---

- The American Mathematical Society, <http://www.ams.org/employment>
- Mathematical Association of America, <http://www.maa.org/>
- Society for Industrial and Applied Mathematics, <http://www.siam.org/students.career.html>
- American Statistical Association, <http://www.amstat.org/careers/index.cfm?fuseaction=main>
- American Academy of Actuaries, <http://www.actuary.org/>
- Canadian Mathematical Society (Camel), <http://camel.math.ca>
- Institute for Mathematics and its Applications, <http://www.ima.umn.edu/>
- American Institute of Certified Public Accountants, <http://www.aicpa.org/>
- National Council of Teachers of Mathematics, <http://www.nctm.org/>
- Institute for Operations Research and the Management Sciences, <http://www.informs.org/>
- Society of Actuaries: <http://www.beanactuary.org>

## Career and Job Internet Search Resources

---

### General Web sites

- **Sloan Career Cornerstone Center (SCCC)**, <http://www.careercornerstone.org> (Math Careers)
- **American Mathematical Society** (Employment and Careers) <http://www.ams.org/careers-edu>
  - AMS- Archived Profiles and Forums: <http://www.ams.org/careers/archived.html>
  - AMS- Careers and Employment: <http://www.ams.org/employment>
  - AMS - Careers In Mathematics Video: <http://www.msri.org/ext/CareersInMathematics.html>
- **The Princeton Review**: (Day In The Life of a Mathematician) <http://www.princetonreview.com/cte/profiles/dayinlife.asp?careerID=94>
- **Society for Industrial and Applied Mathematics (SIAM)** “Thinking of a Career in Applied Mathematics?”: <http://www.siam.org/careers/thinking.php>
  - **SIAM- Archived Career Profiles of Mathematicians** <http://www.ams.org/careers/archived.html>
  - **SIAM- Careers in Applied Mathematics and Computational Science** <http://www.siam.org/careers/careers.htm>
- **Career Profiles in Operations Research and Management Science** <http://www.informs.org/Profiles/>
- **Women in Mathematics** <http://www.awm-math.org/>

- **Career Builder.com**- “*Why It Pays To Be A Math Geek.*”  
[http://www.careerbuilder.com/JobSeeker/careerbytes/CBArticle.aspx?articleID=460&cbRecursionCnt=1&cbid=052f94c3685d48d3bb73a77a06dd7c33-250181613-J0-5&ns\\_siteid=ns\\_us\\_g\\_why\\_it\\_pays\\_to\\_e\\_a\\_ma](http://www.careerbuilder.com/JobSeeker/careerbytes/CBArticle.aspx?articleID=460&cbRecursionCnt=1&cbid=052f94c3685d48d3bb73a77a06dd7c33-250181613-J0-5&ns_siteid=ns_us_g_why_it_pays_to_e_a_ma)
- **Google searches at [www.google.com](http://www.google.com)** – experiment with searches like “math careers”, math + careers, etc.

## **Internships, Job Listings, and Alumni Networking**

- **IAP Externship Program** <http://alum.mit.edu/ccg/students/externships/index.html>
- **ICAN** <http://alum.mit.edu/cs/ican/index.html>
- **UROP** <http://web.mit.edu/urop/>
- **MIT Careers Office online recruiting site**, see <http://careers.mit.edu>
- **Internships in Mathematics Websites (varied)**
  - <http://www.ams.org/employment/internships.html>
  - <http://www.ams.org/employment/undergrad.html>
  - <http://www.math.purdue.edu/~rcp/Internships.html>
  - <http://www.phds.org/graduate-school/preparing/summer-internships-2/>
  - <http://www.beloit.edu/~facs/pdfs/JobAndInternshipSearchSites.pdf>
  - <https://inet-csm.symplicity.com/>
  - <http://homepages.bw.edu/~dcalvis/internships.html>
- **MIT Math Department Job Resource Center**  
<http://www.aftercollege.com/groups/listings.asp?id=1769649531>
- **National Security Agency (NSA) Internships** [http://www.nsa.gov/careers/students\\_1.cfm](http://www.nsa.gov/careers/students_1.cfm)
- **NASA Academy** <http://academy.nasa.gov/>
- **US Department of Energy** <http://www.energy.gov/scholarships&internships.htm>
- **Internships & Co-Op Opportunities:** <http://www.ams.org/employment/internships.html>
- **American Statistical Association Internship Information:**  
<http://www.amstat.org/education/index.cfm?fuseaction=undergrad>
- **Summer Job Hunting Tip Article** <http://www.collegeboard.com/student/plan/high-school/8913.html>

## **Books**

- *101 Careers in Mathematics* by Andrew Sterett
- *Careers in Statistics, Women in Statistics, Minorities in Statistics* (3 publications). No charge for orders of 25 copies or less.  
Stats: A magazine for Student members of the American Statistical Association. Cost: Included as part of the \$25.00 per year for Student membership.  
All available from: The American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402. Tel. 1-888-231-3473

## **Salary Information**

---

**Salary.com:** <http://www.salary.com>

**MIT's Graduating Students Survey:** <http://web.mit.edu/career/www/infostats/graduation.html>

## Departmental Homepage

---

MIT Department of Mathematics: <http://math.mit.edu/undergraduate/index.html>

- **What Do MIT Math Majors Do after graduation?**  
<http://math.mit.edu/undergraduate/major.html#jobs>
- **Math Department Job Resource Center**  
<http://www.aftercollege.com/groups/listings.asp?id=1769649531>

## Next Steps

---

- **Visit the MIT Careers Office (MITCO) 12-170:**
  - Meet with a career counselor to discuss your interests and to review your resume and cover letters.
  - Consult the Undergraduate Career Development Timeline:  
<http://web.mit.edu/career/www/guide/timeline.pdf>
  - Read our Career Development Workbook for tips on self-assessment, resumes, cover letters, networking, and interviewing skills (*available in print in our office or on the bottom of our homepage: careers.mit.edu*)
- **Meet with your academic advisor to discuss potential career paths in Mathematics**
- **Network with current students and alumni who work in your area of interest**
- **Go to your Professors Office Hours and let them get to know you**
- **Start creating your own networking web for:**
  - help & information on career decisions and your future
  - internships and job search advise
  - informational interview opportunities
  - letters of recommendation (future job applications)
  - references