Careers

Actuary

Several of our current mathematics majors - including Jorge Fernandes, Give-Lord Francisque, Javier Galindo and Kerrene Paul - intend to pursue careers as actuaries. In past years a number of mathematics graduates have obtained Master’s degrees in actuarial studies with a view to working as actuaries. Most recently, Katie Cakounes (pictured) graduated with a BS in Computational Mathematics from UMass Dartmouth, and is working as an administrative assistant at Merrimack Pharmaceuticals while pursuing her Master’s in Actuarial Science at Boston University. At BU Katie has completed the courses Laboratory for Actuarial and Financial Data Analysis, Mathematics of Compound Interest, Finance for Actuaries, Actuarial Mathematics, Actuarial Statistics, Mathematics for Investment and Portfolio Theory, and SAS with Statistical Applications.
Here is information about actuaries from the Society of Actuaries (SOA) web page:

“What is an Actuary? An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs. They evaluate the likelihood of those events, design creative ways to reduce the likelihood and decrease the impact of adverse events that actually do occur. Actuaries are an important part of the management team of the companies that employ them. Their work requires a combination of strong analytical skills, business knowledge and understanding of human behavior to design and manage programs that control risk. SOA members work in life insurance, retirement systems, health benefit systems, financial and investment management and other emerging areas of practice. The majority of actuaries work within the insurance industry, although a growing number of actuaries work in other fields.”

Jorge Fernandez, Give-Lord Francisque and Javier Galindo are currently collecting the following data about actuarial careers:

- Cost: tuition, loans, debt after graduating.
- Salary by major: STEM degrees vs non-STEM degrees.
- Salaries in the past (starting from around 2000).
- Future projections of salaries: if they’re going to increase or decrease based on the economy or demand.

Feel free to talk to them for more information.

Top jobs in America revealed from Careers at NBC.com:

No. 2 best: Mathematician

Job Description: Applies mathematical theories and formulas to teach or solve problems in a business, educational or industrial setting.

Verdict: Mathematicians make the most among the top 10 jobs with an average income of about $95,000, and they enjoy a great work environment and few if any physical demands, according to Mathematican Bureau of Labor Statistics. At a minimum you’ll need a Ph.D for most jobs to join this small group that includes only about 3,000 nationwide right now. That number is projected to rise by 22 percent in the next seven years.

No. 3 best: Actuary

Job Description: Interprets statistics to determine probabilities of accidents, sickness, death and loss of property from theft and natural disasters.

Verdict: This job makes the list in part because of the “pleasant” work environment it provides. The salary is pretty pleasant too — about $87,000. Actuaries typically have a bachelor’s degree, but many also have to take a host of examinations to get full professional standing. Most employers are in the
insurance industry. There are about 20,000 actuary employed in the United States, and the employment outlook is strong. Employment is expected to rise by 21 percent in the next seven years.

**No. 4 best: Statistician**

*Job Description:* Tabulates, analyzes and interprets numeric results of experiments and surveys.

*Verdict:* Most statisticians need a master’s degree in statistics or mathematics, and about 30 percent of those in the field work for government agencies. The job may require long hours and tight deadlines, but it pays $73,208 a year on average. The number of jobs in this occupation is projected to climb by 13 percent to 25,500 by 2018.

**SIAM brochure on careers in Applied Mathematics**

This applied mathematics careers brochure provides information on:

- Where Can I Work?
- What Kind of Problems Might I Work On?
- Growing Fields to Consider
- How Do I Get Started?
- Profiles of Professional Mathematicians and Computational Scientists
- Organizations that Hire Applied Mathematicians
- Applied Math and Computational Science Societies
- Books on Careers in the Mathematical Sciences

**The largest known prime number as of January 25, 2013**

As Curtis Cooper’s computer lay apparently idle at the University of Central Missouri, software devised by [The Great Internet Mersenne Prime Search](http://www.mersenne.org) (GIMPS), running in the background on Dr. Cooper’s computer, put the final touches on the discovery that $2^{78,588,579} - 1$ is a prime number - the largest known to date.
Reminders:

1. **SIAM News**

   The local SIAM chapter meets on Thursdays at 3:30 PM, in room 218 Liberal Arts. To find out more about the SIAM chapter and its activities, contact Andrew Davey: adavey@umassd.edu, Ed McClain: emcclain@umassd.edu or Nick Moniz.

2. **MPOWR**

   Tiffany Ferreira (featured in the Newsletter of September 28, 2012) is the student coordinator of MPOWR - a project of the Office of Undergraduate Research that aims to promote opportunities for mathematics and physics majors through research. If you are a female mathematics major, get in touch with Tiffany - tferreira3@umassd.edu - and find out how MPOWR might help you to a potentially brighter mathematics career.

3. **Summer Institute for Training in Biostatistics (SIBS), Boston University**

   If you would like to learn how to apply statistical methods to investigate important health issues, join SIBS at Boston University for their highly successful Summer Institute for Training in Biostatistics program. The program will run from June 10 to July 19, 2013. The application deadline is Friday, March 1, 2013.

Contact

If you have mathematics related stories or news, suitable for this newsletter, please contact the editor, Gary Davis: gdavis@umassd.edu

All and any news of achievements, plans, wishes, desires, hopes, dreams or just plain gossip will be gratefully received.