Careers in quantitative fields are routinely ranked among the top 10 best careers. The charming picture to the right is from the 2009 Wall Street Journal article on career rankings, http://online.wsj.com/article/SB123119236117055127.html, where “mathematician” was ranked first (the best job) and “lumberjack” was ranked last (the worst job).

In 2011, CareerCast.com listed the top 10 best jobs in the U.S. as follows: (1) software engineer, (2) mathematician, (3) actuary, (4) statistician, (5) computer systems analyst, (6) meterologist, (7) biologist, (8) historian, (9) audiologist, (10) dental hygienist.

Ratings for jobs depend on work environment, physical demands, outlook, income and stress.

Computing sector jobs are strong right now, and will continue to be strong. Since everyone should know something about working with computers, a natural recommendation is that you consider taking at least one computing course while at Boston College. Along these lines, let me mention three programs of study that may interest some of you:

1. The computer science minor (start from http://cs.bc.edu/).
2. The scientific computation minor (http://physics.bc.edu/MSC/).
3. The interdisciplinary concentration in bioinformatics (http://www.bc.edu/schools/cas/biology/undergrad/specprogs/bioinformatics.html).

If you are having trouble deciding on a career, then you might want to pick up the latest edition of the book What Color is Your Parachute? by Richard Bolles. The author gives practical advice on thinking about how to choose a career – focus on jobs that allow you to do the things you really enjoy.

The Mathematical Association of America (MAA) features a website on careers http://www.maa.org/careers/

If you click on “Career Profiles”, then you can read about how individuals with training in the mathematical sciences use their training in teaching, actuarial sciences, business management, computing, engineering, investment analysis, medicine and life sciences, military and public service, and other fields.

The American Mathematical Society (AMS) has a web page devoted to profiles of recent bachelors-level graduates in the mathematical sciences (http://www.ams.org/careers/, click on “Early Career Profiles”). The American Statistical Association (ASA) features a careers website focused on careers in statistics (http://www.amstat.org/careers/). One of my favorite features at this website is its reference to a 2010
comment by Hal Varian, Chief Economist of Google, who declared that statistician was going to be the

*Dream Job of the Next Decade.*


**One of the largest employers** of individuals with mathematics training is the National Security Agency (NSA). Their careers website ([http://www.nsa.gov/careers/](http://www.nsa.gov/careers/)) includes a link “Opportunities for You” leading to descriptions of exciting, although quite competitive, summer programs for students.

**Many students** would like to add summer research and training programs to their undergraduate experience. The National Science Foundation (NSF) sponsors many “Research Experiences for Undergraduates” (REU) programs in the physical and social sciences, mathematics and engineering. To search for REU sites by discipline, go to [http://www.nsf.gov/crssprgm/reu/](http://www.nsf.gov/crssprgm/reu/), and click on “Search for an REU Site”. The National Heart, Lung and Blood Institute (NHLBI) sponsors “Summer Institute in Biostatistics” (SIBS) programs to attract students to the field of biostatistics (where there are many more jobs than qualified applicants). The list of SIBS programs can be found at [http://www.nhlbi.nih.gov/funding/training/redbook/sibsweb.htm](http://www.nhlbi.nih.gov/funding/training/redbook/sibsweb.htm)

There are several training opportunities available through the National Institutes of Health (NIH). The list is at [https://www.training.nih.gov/programs/](https://www.training.nih.gov/programs/). Some programs offer summer internships. An interesting item in the list is the “Postbaccalaureate Intramural Research Training Award” Program, where individuals with bachelors degrees work for one year at laboratories throughout the NIH on research related to the biomedical sciences; biostatistics and biomathematics are among the possible areas of research.

Two final notes: (1) Over the years, many of our mathematics majors have attended the SIBS program in biostatistics at Boston University, and have done well. (2) If you would like to see the research experiences of 4 of our undergraduates this past summer, go to [http://www.bc.edu/math/](http://www.bc.edu/math/), click on “more news” and scroll down the page a bit; scroll further to see the experiences of 8 more students in summer 2011.

**Who could resist** an article on the importance of mathematics in the business world? The article is from Business Week, and can be found at [http://www.businessweek.com/magazine/content/06_04/b3968001.htm](http://www.businessweek.com/magazine/content/06_04/b3968001.htm)

The authors talk about how math transforms industries, and about the areas of mathematics that students interested in going into business should study; probability and statistics are among the areas mentioned in the article.

There is a cautionary note here. Many people have misused mathematics in the financial sector in recent years. Sophisticated mathematical models were applied without any regard for whether such models fit reality. To apply mathematics in the real world, it is important that you know both the field of application and the mathematics you are trying to apply. Checking that your assumptions are valid is an important part of the process.