"If I major in math, what sort of job can I get?"

An incongruous question, because it is most likely being asked by a student who almost certainly selected this major simply because he or she likes mathematics. Be that as it may, almost every teacher of mathematics has been faced with some variant of this question. This book is not a complete answer, but it would be helpful and valuable in every mathematical sciences department for the information and advice that it does provide.

What this book is not: it is not a simple listing of job titles, job descriptions and salaries. In fact there are many other sources for that kind of information. Andy Sterrett's compilation of biographical descriptions, 101 Careers in Mathematics (MAA, 1996, see our review), the leaflets "Careers in the Mathematical Sciences" and "More Careers in the Mathematical Sciences" (from MAA) and "Careers that Count" (from AWM) present many sketches of types of jobs and tasks which math majors do. In the same vein are She Does Math! (which we also reviewed), and our collection of career profiles on the web.

Instead, this 286-page paperback, written by a Director of Career Services and a Director of Recruitment at a 4-year college, is a comprehensive treatment of several different areas where math graduates find jobs, as well as a "how to" manual for the job search.

In the portion of the book subtitled "Career Path", there are four extensive chapters:

- The math job you know best: teaching (at secondary or collegiate levels);
- Math as a primary skill: actuary, mathematician, statistician and operations analyst;
- Marketing, research or financial analyst (including the value of related graduate degrees);
- Math in the marketplace: buyer, sales representative and purchasing agent.

In the portion of the book subtitled "The Job Search", there are well-thought-out chapters on self-assessment, researching careers, networking, interviewing, job offer considerations (hallelujah!) and the graduate school choice (including reasons for going or not).

Some of the authors' advice is music to a math teacher's ears, reflecting some of our long-cherished beliefs about why mathematical training is important: applications, problem solving and reasoning are unifying themes in mathematically oriented career paths. They also advise students that computer and communication skills are very important, as is the ability to work with a team. The book also makes it clear that most jobs for math majors are not titled "Mathematician". In fact, a recent ad for a "high end job" is quoted:

XYZ Analysis, Inc. is a management consulting company that applies sophisticated analytical techniques to real-world problems in the public and private sectors. XYZ's strength is high-quality work in areas such as strategic planning, decision analysis, operations management, analysis of public policy, forecasting markets for new products, R & D planning and basic
research.... seek applicants with bachelor's degrees for positions in our analytical staff .... Candidates should have: a degree in mathematics, operations research, decision analysis, computer science, engineering or other technical field; a GPA of 3.3 or higher; an interest in solving important, complex problems; skills in a broad range of mathematical techniques; communication skills to present analytical results in a clear, concise manner; a high level of enthusiasm for challenging work in an informal atmosphere. Analysts work on teams ... are involved in tasks such as data analysis, formulating and programming mathematical models, working with clients, preparing, presenting and assisting with report and proposal writing.

Although the authors distinguish between "contextual skills" (those related to specific jobs, such as a knowledge of aircraft loading weights) and "portable skills" (those which are more general and are valuable in many different job situations, such as the ability to analyze a delivery system and isolate potential problems and correct them), I'd have liked to see a more specific discussion of the relationship between the courses a math major takes and the actual tasks on some of the jobs described.

This book (and the others cited in the second paragraph) should be readily available to students in all departments of mathematics. It should also be of interest to most faculty, who usually do not have much first-hand knowledge about the careers entered into by their students. In fact, a worthy goal might be to provide personal copies of these books to all undergraduate majors in the mathematical sciences (rather than simply house such references in a Placement Office, usually only visited by students nearing graduation). Other valuable additions to a departmental collection would be *Careers for Number Crunchers and other Quantitative Types*, a 1993 VGM publication, and the 1996 CBMS Resource Guide on careers in mathematical sciences. The book contains many other references, including Web addresses for many organizations; one that I did not find was the address for the Bureau of Labor Statistics' Occupational Outlook Handbook: [http://www.bls.gov/oco/](http://www.bls.gov/oco/).

Many mathematicians seem reluctant to have their students enter into "non-mathematical" jobs in the corporate world; we seem to be prone to clone ourselves by sending our students on to graduate school and into the academic world. Such a career path is appropriate for some of our majors, but only a small percentage of our undergraduates will eventually become tenured faculty. We should assist all of our students by making complete information available, allowing them to make informed choices. The authors proclaim that "a math major is a wonderful degree to bring away from college because there are so many opportunities ... employers need individuals with mathematical skills in the workplace". They also say, however, that "math majors are seldom aware of the value of their own degree." This book can help to remedy this disparity.

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