ENGINEERS ARE IN DEMAND

A conversation with McCormick’s director of career development

It’s a great time to be an engineer. Engineering is now a foundational discipline; engineers are defined not by what they do but by how they think. They are taught to approach problems both analytically and creatively and to find the actual problem behind the perceived problem. It’s a skill that opens up myriad career opportunities across tech, business, media, and green sectors, giving students a chance to forge nearly any career path they choose. Starting salaries are high, and graduates are in demand; more than 90 percent of McCormick graduates have opportunities lined up before they graduate.

Of course, students need a little help along the way. The McCormick Office of Career Development, in an expanded role, now guides students to the right opportunities from the moment they step onto campus. It currently helps students find internships, research positions, and volunteer opportunities and offers career preparation courses, one-on-one advising, and mock interviews. Perhaps most important, it teaches students how to connect with Northwestern’s alumni network.

We sat down with Helen Oloroso, assistant dean and director of career development, to discuss trends in employment.

Engineers are in demand. Even at its worst, in September 2009, the unemployment rate for engineers was 6.4 percent, compared with nearly 10 percent for all occupations. How does this influence how engineering students look at careers?

It’s a great time to be an engineer. Because of the widespread information about the role of the tech sector in our economy, our students know they have more opportunities than many of their nonengineering peers. Some industries experience volatility during economic downturns, but engineering in general is poised to suffer less and recover more quickly.

That must make job hunting a little less stressful.

Perhaps, but the job search is still daunting—partly because of the overwhelming amount of information available to students and partly because they are often unsure of their own true interests. Many students who come to us are wrestling with uncertainty over whether engineering or business is a more suitable choice. I would say 20 percent of the sophomores we work with are only tentatively committed to their current major. At least half of these students will change majors before graduation.

How does your office help students become more certain of their true interests?

We help students through our Introduction to Career Development course, which is required of every student who participates in an internship or cooperative education program. Since the course began in 2007, more than 300 students have taken it each year. In one assignment, students must make a presentation on their dream job and find companies that operate in that space. Our advisers also work one on one with students to develop an individualized plan and hone their interviewing skills. One of the most helpful requirements is that students contact an alum to request an informational interview. That gets them thinking about what they seek in employers and vice versa. We train students to ask questions and tell the company what they can offer.

Beyond the course, every student is assigned a career adviser, and advising appointments continue throughout the students’ time at McCormick. This is vital to helping students make informed choices throughout their undergraduate career.

In general, the more self-aware students are, the easier it will be to decide on a career and begin a job search. Do they want to work in a large or a small company? We often ask them to think about their high school experience and whether they liked being part of big organizations or small ones. We often encourage students to look at midsize companies, which are likely to be overlooked because they are not household names.

Engineering students now have a wide range of career opportunities. What types of jobs are engineering students recruited for? How has that changed over the last 10 to 20 years?

Many employers desperately want to hire students who can handle and understand data. Computer science majors are the most in demand, especially at large companies that need to fill out their IT departments. In the traditional engineering disciplines, electrical, mechanical, and chemical engineering are most in demand.

Ten years ago the most popular destinations for McCormick graduates were traditional engineering industries—chemicals and materials, electronics hardware, manufacturing, biomedical, and the like. Now our students are often more business focused. Economics is the most popular second major among McCormick students, and many students go directly into business-related careers. Today, four out of every 10 graduates go into either consulting or finance—nearly double the number who did so a decade ago—though that number is trending back down from its peak a few years ago.

More recently, employers are realizing the need to come to campus earlier and seek out younger students. They offer more opportunities to
less-experienced students in order to recruit them into the field. In light of the leadership gap in many corporations, McCormick students are highly valued for their vision, talent, and ability to communicate well with others.

What do students want out of their careers?
More and more students want careers that involve the environment and sustainable development. They want design-based work and leadership roles that will enable them to make an impact on society. Because of McCormick’s focus on entrepreneurship education, we also have several students who are forgoing traditional careers to start companies or join startups. It’s an exciting time for them: they have the knowledge and abilities to create their own businesses without having many of the adult responsibilities that normally discourage engineers from taking risks. We are also trying to match up these students with established companies so the students can use their entrepreneurship skills within large corporations to help innovate and effect change.

How do engineers’ salaries compare?
The National Association of Colleges and Employers reports that the top starting salaries nationally as of April 2013 were paid to computer engineering graduates, with a median salary of $71,700. Other top salaries include chemical engineers at $67,600 and mechanical engineers at $64,000. Overall, it’s clear that engineering careers are at the top end of the salary range and at the low end of the unemployment spectrum.

What’s the best way for engineering students to prepare for the job search?
The ideal way continues to be through an experiential opportunity such as co-op or internships. According to the Collegiate Employment Research Institute at Michigan State University, 62 percent of employers plan to do direct hiring from their pool of co-ops and interns in 2013-14 rather than a seniors-only recruiting strategy. Two-thirds of McCormick students have completed at least one quarter of related work experience, either as co-ops or as interns, before senior year. More students are looking to partake in a variety of internships across industries to get a better sense of what they want to do. This is a significant contributing factor to the success of our students.

How can they stay at the top of their field as they move up in their career?
It is most important to understand that knowledge has a limited shelf life. More than most others, engineers have to stay on top of changes in their industry. Lifelong learning through an advanced degree is probably essential to remain competitive as a practicing engineer.

Another option for students who want to move up in their career is to join a leadership development program, available in most large corporations. These two- to three-year rotational programs are designed to augment an employee’s technical background and develop the next generation of corporate leaders.

Two fields that seek engineering students for their analytical and problem-solving abilities are finance and consulting. We advise students to think carefully about where this route will take them, because these fields have very high rates of attrition after the first two to three years. Students who go directly into those fields may burn out within a few years, and by then they may not have the skills to go into a traditional engineering job. They often need to get a master’s degree because the fundamentals have changed.

I often tell students that engineers need to add value to themselves throughout their careers. Students used to identify as “I am what I do”; now it’s “I do what I am.” Research shows that employers are increasingly looking for initiative. That wasn’t even on the list 10 years ago. Now they are looking for people to bring ideas and mold their jobs themselves.  

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