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## ENGINEERING WEEK

### Where have all the engineers gone? Tips for recruiting and retaining

In the past, engineering positions were easy to fill. Firms had their pick of candidates from the numerous resumes that poured in from job fairs or newspaper advertisements. But, over the last decade, and most severely in the last two years, the number of engineering graduates has declined, and so has the number of applicants for each job vacancy.

Surveys by the National Science Foundation show there is undoubtedly a decrease in students graduating with undergraduate degrees in engineering and a flat rate of graduate students. Engineering undergrads nationally have been declining steadily since the peak in 1985 of 77,572 to 59,258 in 2001. This is even more alarming when you factor in that a number of those who do graduate with an engineering degree choose non-engineering jobs such as consulting or accounting.



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Although the number of engineering graduates in Colorado has remained flat over the last five years, according to a report by the Colorado Commission on Higher Education, the number of students

graduating from college has increased by 23 percent for the same time period. While fewer students are choosing to major in engineering every year, firms in the Denver area are growing and expanding, and in dire need of engineers to help them manage growth.

Why are students not choosing engineering as their course of study? It could be that engineering is not a glamorous profession. Maybe it's because there has been so much talk of outsourcing engineering jobs overseas to low-cost countries like India and China, and students are fearful that there won't be jobs when they graduate. Another theory says that students most likely to choose engineering as their major turned to informa-

tion technology in the late 1990s to capitalize on the now busted dot-com boom.

Until the time comes when the numbers of engineering graduates are on the rise again, firms must employ aggressive and creative recruitment techniques to fill their numerous job openings. Equally as important as recruiting new employees is retaining and fostering the knowledge base of current employees.

#### RECRUITMENT STRATEGIES

In today's competitive employment market, it's not possible to simply wait for applicants to come to you. Employers need to give prospective employees an incentive to want to work for their company. Here are some suggestions:

- Offer a signing bonus, a competitive starting salary, or both. Money is the perennial incentive. An entry-level engineering position is usually not a recent graduate's dream job, but with a good starting salary, it can make an unexciting job seem more palatable until that first promotion is attained.
- Create relationships with the students prior to graduation. There are numerous ways for companies to become involved with students through local chapters of engineering-related associations.
- Another great way to build relationships with students is to offer a well-structured, paid internship program. Students can learn about your company as well as get great hands-on experience. An added bonus is that they will be more likely to look to your firm upon graduation, and are already familiar with your company's practices.
- Offer to pay tuition fees for part-time workers or interns, or reimburse graduates for their tuition.
- Recruit retired or former employees and offer them a flexible schedule. Former female employees, for example, who left careers to care for children might welcome the opportunity to go back to work with a manageable

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workload. By offering retired employees a flexible work schedule, you get engineers who have the knowledge base and skill set needed with minimal training.

- Set up an employee referral program. It's like hiring hundreds of in-house recruiters.
- Recruit on campus early and often. In the past, the fall career fairs on campus were the perfect time to offer graduating students work for the following year. But now that the field has become so competitive, spring career fairs (a year in advance of graduation) may be the optimal time to recruit.

## RETENTION

Retaining employees is critical to ensure that there is quality leadership in the next generation. Retention strategies are also a key to recruitment. Engineering graduates are interested in more than money these days. They want to join a company where they can grow and learn, personally and professionally. Retention strategies include:

- Set up a mentoring program. Provide new employees with a way to benefit from the knowledge and experience of more senior engineers.
- Offer flexible work schedules or other work alternatives for employees with special requirements. By understanding the needs of your employees, you can create a culture that fosters loyalty and hard work.
- More and more women and foreign students are entering the engineering workforce. According to the Engineering Workforce Commission, 10 percent of engineering degrees were awarded to women in 1980. By 2001 it had increased to more than 20 percent. Again, create a culture that recognizes and addresses the unique needs of the changing workforce.

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