

Some Engineering Firms Find It Hard To Recruit Young Workers

■ By JESSICA C. LEE

Engineers are in high demand these days. As engineers who have been in the trenches gravitate toward retirement, Orange County engineering firms are on the hunt for talent with both book smarts and work experience.

And they are finding them hard to come by. Firms have spent the past five years heavily recruiting entry-level engineers directly from local universities to help them take on a windfall of projects related to the development of homes, office buildings and shopping centers.

Real estate work has slowed down but there's strong demand for engineers to work on other projects, firms said.

Many OC engineering firms are seeing an uptick in infrastructure-related work for the array of aging roads, bridges and buildings that need to be updated to accommodate a growing population, firms said.

The demand for energy and fuel has also increased the number of electrical power and oil and gas refinery projects firms are taking on, they said.

Increased environmental concerns are pushing more alternative renewable energy projects, including solar, wind and water energy. Firms are responding to the demand by trying to ramp up staff with knowledge of alternative energy.

"There's a tremendous shortage of engineers," said Leonard Sequeira, vice president of TRC Cos. in Irvine. "The engineering industry is taking a hit because you don't have as many engineers coming out of schools as they did at one point."

The number of students graduating from engineering programs is declining slightly, according to the National Society of Professional Engineers in Virginia.

Last year, the number of bachelor's degrees awarded in engineering declined for the first time since the 1990s, ending seven years of

growth, according to the American Society for Engineering Education's "Engineering by the Numbers" report.

There were 73,315 engineering degrees awarded during the 2006-07 school year, a 1.2% decline from a year earlier, the society reported.

The number of engineering master's degrees also is declining.

There were 36,983 master's degrees awarded in the 2006-07 school year, an 8% drop from the 2005-06 school year, the ASEE reported.

Fewer students are entering the engineering profession after undergraduate school because many are pursuing more lucrative careers, said Larry Jacobson, NSPE's executive director.

"For a long time there were enough engineers in enough categories and their pay began to stagnate," Jacobson said. "When that happens you get fewer people coming to the profession."

But that pay trend is slowly starting to change as the demand for engineers has driven salaries up in the past few years, he said.

On the low end, entry-level engineers can earn \$50,000 to \$60,000 a year, which is on par with what entry-level accountants earn at accounting firms, he said. And that base salary increases based on experience.

The national median yearly salary for engineers is \$86,224, according to the NSPE.

The median salary in OC is \$94,400, the NSPE reports.

An engineer's salary also depends on the area he or she specializes in, according to Scott Samuelsen, professor of mechanical, aerospace and environmental engineering at the University of California, Irvine.

Firms that specialize in chemical, oil and gas, energy, electronics and medical engineering are paying top dollar for engineers that can take on highly technical work, he said.

"The opportunities for graduates continue to be very strong and very broad, especially in the energy sector," Samuelsen said.

Local engineering firms spend good chunks of their time recruiting students from local universities with strong engineering programs such as UC Irvine, California Polytechnic State University, San Luis Obispo and California Polytechnic State University, Pomona.

Firms work closely with universities to help create curriculums that teach students fundamental engineering principles and keep students up to date on codes, according to Mike Milazzo, vice president of Texas-based Fluor Corp.'s Irvine, Aliso Viejo and Long Beach offices.

"I think the engineering schools are doing a very good job of preparing students," Milazzo said.

Engineering firms rely on universities to teach students technical engineering skills but take it upon themselves to train entry-level engineers so that they can build up real experience, Milazzo said.

"We constantly have to train," he said.

In addition to new codes and technical skills, engineering firms are finding that they need to train engineers on business acumen, he said.

"We're engineers but we also have to be businesspeople," Milazzo said.

Firms have to teach engineers the practical nature of the industry such as how to execute a project from designs and permits to personnel and finance, he said.

"Theory is great, but you need to know how to use it in the real world," Milazzo said.

It's common for engineering firms to pair graduates with senior level engineers to teach them about project planning, Sequeira said.

Grooming entry-level engineers takes a lot of time and money but is worth the investment, he said.

"Training takes a lot of money but it earns dividends because you're increasing the workplace's talent," Sequeira said. ■



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