

# Engineers progress to executives

Engineers at Texas A&M now have an opportunity to step out of a background role in teaching and research and train for leadership positions in business and industry since the development of the Doctors of Engineering Degree program.

"In a society dominated by engineering and science, there should be some engineering leadership," says Dr. Richard E. Thomas, associate dean of engineering at Texas A&M.

Engineering companies are basically not run by engineers, says Thomas. He feels there should be a balance of leadership in the business sector between lawyers, accountants and engineers.

The program, which began in 1974, combines engineering, business and other related courses in the curriculum. It was developed to train beginning engineers to become vice presidents and presidents of companies. The program aims to develop people who are technologically competent, and who understand business practices along with being sensitive to the needs of society.

"Somehow we've got to supply leadership to the great batch of average Americans out there to help them understand and use technology," Thomas said.

"We cannot educate a fully functioning engineer in four years like we used to," Thomas said. The products of industry are now more complex, and the technological demands are greater.

"Until the advent of this degree, all you could get was a Ph.D.," Thomas said. The emphasis was placed on technical careers in research and teaching. Engineers who wanted to go into industry and do well had to learn the business end by osmosis. They succeeded in spite of their education, not because of it, he said.

"We would like to have an engineer who anticipates societal reactions to what he's doing. Many times this requires more than technical knowledge. Being able to caress the computer or manipulate equations is not enough," Thomas said.

In addition to including business courses in the engineering curriculum, students in the program attend a professional development seminar once a week "aimed at filling some of the gaps in their formal education," Thomas said. Some of the subjects at the seminar have been newspaper writing, how to buy a house, and what it is like to do business overseas.

The seven year program is known as the two plus four plus one program. The first two years are as a freshmen and sophomore, the next four include the junior and senior years and two years of graduate work, and the last year is spent out on internship, Thomas said.

"We would like to have students enter the program as juniors," Thomas said. By starting out at this level, they get a much more integrated program because their junior and senior years they attend the seminars instead of taking an elective, he said.

"The objective is to get them to think of themselves as professionals and as doctoral students," Thomas said. Most of the students in the program now have master's or bachelor's degrees, he said.

"It's still a fairly small program. We're trying to make it grow, but with prudence," Thomas said. Eight engineers have graduated from the program. There are 20 students in the program on campus now, and three presently working on internships.

"The internship is a very vital portion of the program," Thomas said. For one year the students work on actual engineering problems, comparable to a medical doctor internship. No dissertation is written, but the students come back the semester after their internship and write a report on it.

"Industry believes in the program and wants to help us shape it," Thomas said. Members of an industrial representatives committee come in at their own expense to advise and counsel the program. Industrial companies also cooperate in the internship program.

The average starting salary for graduates of the program is in the vicinity of \$23,000, Thomas said.

"Twenty years from now the professional will be the guy or gal who has the Doctor of Engineering degree." The people with a bachelor's or master's degree will be support people, Thomas said.

Bill Stevens, an Agricultural Engineer in the program for two and a half years, said he wanted to get in the administrative end of engineering.

"This way I'll be getting almost an equivalent in course work of a masters of business administration, plus equivalent coursework as Ph.D. types are receiving," Stevens said.

"I wasn't as interested in research as I was in being an engineering manager," said Steve Kibbee, a mechanical engineer in the program. He feels the program is a broad overview of both business and engineering.

"It's the greatest engineering project I've ever been involved in," said Thomas. He feels the program will continue to keep A&M one of the leading schools of engineering and calls the participants the "cream of the crop."

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