



High School students worked on engineering design activities at the 10 December 2005 "So you want to be an engineer?" event

IEEE

Educational Activities

Pre-university Newsletter

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Life as an Engineering Undergrad, Explained

High school students and parents in the Philadelphia area got a glimpse of life as an undergraduate engineering student when the IEEE held an event in December called "So You Want to Be an Engineer."

The first meeting of its kind, it drew 160 attendees, who listened to students and university personnel explain the broad field of engineering. Visitors also got answers to their curriculum questions, and they had a chance to try their hand at building simple devices. They were interacting with students and personnel from host school Drexel University as well as from Lehigh, Pennsylvania State, and Temple universities, and the University of Pennsylvania.

PROVOKING INTEREST "The IEEE held the event because we are looking for new ways to introduce engineering to young people," says Moshe Kam, vice president, IEEE Educational Activities. "We feel that more hands-on activities and interaction with engineering students will help demystify engineering for high school students. We also feel that many parents need an informed understanding of how engineering education is organized so they can better advise their sons and daughters.

"We don't think every high school student should become an engineer," he continues, "but we do think that every student should understand what engineers do."

The Saturday event kicked off with a keynote address by Andres Lebaudy, who earned his bachelor's and master's degrees and, in 1996, a doctorate in engineering from Drexel. Today

Lebaudy is one of the principals of Fairmount Automation, in Newton Square, Pa. Some of the products made by Fairmount, an equipment manufacturer serving the process control and automation industries, have been used by the U.S. Navy's research labs, including the Naval Surface Warfare Center.

Lebaudy told the youngsters he believes an engineering education could be the cornerstone for any career they might want to pursue. Engineering is special compared with other professions because of the way engineers are taught to think—"not only analytically but also creatively," he said.



Exhibit Area at "So you want to be an engineer?"

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Several engineering undergraduates gave talks on topics such as why they chose their particular field of study, what they liked most about their education, and why they believed engineering is an excellent field to enter.

A panel of admissions personnel from Drexel, Lehigh, and Temple fielded questions from parents, who asked, for example, which extracurricular activities are good for budding engineers to get involved in during high school, what information is important to include on an application to a university, what advice should one give to a young woman who wants to enter the field, and can varsity athletes juggle an engineering curriculum with their sports schedule.

HANDS-ON WORK There also were fun and games. Drexel engineering students led youngsters through three hands-on activities. Two demonstrated basic engineering concepts—building a robot arm and creating a working model of nail clippers. The third, designing a bag for candy, involved product design. An exhibit area featured teams of engineering students demonstrating projects they'd built, such as robots and model cars and rockets.

Breana Brown, a freshman at Abington High School in Pennsylvania, said she liked that the event made engineering fun. She said she appreciated the hands-on activities and the exhibits.

"Talking with the students in the exhibit area was most helpful," Brown said. "They gave me an idea of what to expect as an engineering major. They also gave me great advice on how to prepare for studying engineering in college, and what college courses to take."

IEEE Member Richard Teal, parent of a high school student, attended the event with his son in hopes that the teen would gain a better idea of what engineering students learn and do at the university level.

"Just walking around the exhibit area was great exposure for my son because he could interact with engineering students at the sophomore, junior, and senior levels, and see some of the things those students work on," Teal said. He added that it was good for his son to get advice from others close to his own age about classes to take in high school and college. "I tell my son he needs to take certain classes—like physics, for example—so he can get a good understanding of fundamentals," he said. "But of course he doesn't want to hear that from me. Getting that advice from students closer to his own age makes more of an impression on him."

The American Society of Civil Engineers and the American Society of Mechanical Engineers also participated in "So You Want to Be an Engineer." The IEEE is working on plans to hold similar events in the near future.

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