

STEM FIELDS

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10 years, growth in STEM jobs was three times that of non-STEM jobs. It also noted that STEM occupations are projected to grow by 17 percent from 2008 to 2018, compared with 9.8 percent for all other jobs. Workers in these fields also command wages 26 percent higher than others.

Against this backdrop, local institutions have ramped up their efforts to get students started early in STEM programs.

Promoting STEM

Summer is a busy time at Rochester Institute of Technology as well.

In June there is RoboCamp, where students entering grades 4 to 6 learn the ins and outs of robotic design. Later in July there is an engineering camp, and through the rest of the summer there are other activities relating to computing, biology and even medical science.

The efforts are designed to give students a hands-on introduction to fields they may not have considered before, while also introducing them to a college setting.

"They can come to RIT and do some activities in a lab, and the idea is to make it all engaging," says Jacqueline Mozrall, an associate dean of the Kate Gleason College of Engineering and interim dean of the Saunders College of Business. "The secret to getting students excited about these fields is to try to make them realize that, yes, you're using math and science, but you're doing it to solve really cool and interesting problems in society."

Mozrall just completed a grant to develop a program called Relevant Education in Math and Science. The program involves a series of online STEM activities



Photo courtesy of Monroe Community College
Incoming Rochester City School District ninth-graders build a circuit board to program robotic devices at the new Rochester P-Tech Summer Bridge Program and STEM Institute in Rochester.

that employ math and science in solving engineering problems.

The REMS program is designed for students in elementary through high school and looks at three real-world problems—developing and delivering efficient health care, distributing products and services around the world and preserving competitive manufacturing.

Mozrall says the program has been developed with the input of educators to create a ready-made package for emphasizing STEM fields in primary and secondary schools.

Within RIT there are particular efforts to include underrepresented student groups in STEM efforts. For the last 10 years, the Women in Engineering program has worked to generate interest in the STEM fields among both RIT students and those in primary and secondary schools.

The idea, says Jodi Carville, director of WE at RIT, is not just to expose female students to STEM but also to present opportunities that traditionally have been lacking.

"We aim to provide them with leadership opportunities so that when they are engaged in these majors and professional careers, they have the skills to be leaders in their field," Carville says. "For the students enrolled in engineering at RIT, we're doing things to create a sense of community. We have lunch sessions and talks from industry leaders."

Through the program, female students currently enrolled in engineering at RIT have the opportunity to work with younger students, serving as mentors and giving the young girls role models, to show that women can be successful in STEM.

The efforts were important not only for attracting female students to STEM fields but for keeping them enrolled, Carville notes.

"Research shows that the environment or

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