



TEEMS (Teen Engineering Experience at Michigan State)

July 22—Aug.2, 2012



Audience

This program hosted 30 8th and 9th grade students from Southeastern Michigan who are underrepresented in the field of engineering. Participants were selected based on interest in exploring the field of engineering as demonstrated through their applications.

Funding

The Detroit Area Pre-College Engineering Program (DAPCEP) provided \$21,000 for program expenses allowing participants to attend at no cost. The Diversity Programs Office in the College of Engineering provided facilities, project materials, and administrative staff in kind.

Objectives

TEEMS was designed to:

- Provide students with exposure to engineering disciplines.
- Give students experience using the engineering design process.
- Introduce youth to programming concepts through participation in NXT Lego Robotics projects and computer programming with Scratch, a programming language that makes it easy to create your own interactive stories, animations, games, music, and art.
- Enhance students teamwork and communications skills.
- Give youth the opportunity to explore the MSU campus and the College of Engineering.

Description

TEEMS exposed 30 students to the fields of engineering and computer science through hands on activities that enhanced their teamwork and communications skills. Students were also educated about the college admissions process. Key areas of the curriculum included the engineering design process, NXT Lego Robotics, and computer programming with Scratch. Program participants spent 50 contact hours interfacing with engineering graduate students and undergraduate student mentors during their visit to campus.

Outcomes

A pre/post test was conducted to evaluate the students' knowledge of engineering and computer science concepts. Students' increased their knowledge of the material presented during the program by an average of 38%.

- 84% of participants said they know more about engineering after participating in TEEMS.
- 84% agreed that TEEMS gave them experience using the engineering design process.
- 87% agreed that the computer programming with Scratch course was engaging and challenging.
- 87% agreed the Office of Admissions presentation was informative.
- 73% agreed the tour of campus was informative.
- 97% agreed that social activities were enjoyable.

Additional Significant Information

Since its inception more than 40 years ago, the Diversity Programs Office (DPO) has positively impacted the academic, professional and personal growth of thousands of engineering students through a range of programs.

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