High School Engineering Institute

COLLEGE OF ENGINEERING

6/19-23, 6/26-6/30, 7/17-21, 7/24-28

Audience

Four separate sessions throughout the summer were attended by 176 total participants with a variety of males and females (24% Minority). The participants ranged from high school sophomores to high school seniors. Students came from all over the United States, including Puerto Rico, and were selected based on GPA, transcripts, and completed applications.

Funding

Participants paid a fee of $825, which covers all academic sessions, recreational activities, as well as room and board.

Objectives

The program goals are to:

- Expose participants to multiple fields of engineering through hands-on activities, short lectures and lab visits
- Learn about an engineer's everyday work
- Develop teamwork and problem-solving skills
- Introduce participants to the Grand Challenges of engineering and provide opportunities to work through and solve these problems
- Apply Science, Technology, Engineering and Math (STEM) knowledge to solve problems
- Analyze and interpret data
- Gain research and professional skills through the development of a poster presentation on a specific field of engineering
- Provide participants with an authentic university environment and experience

Description

Intended for rising high school sophomores and juniors seriously considering engineering as their career choice, the program is designed to give in-depth experiences in different engineering majors. Students explored the various fields of engineering through hands-on workshops, problem-solving activities, short lectures by MSU professors and graduate students, lab and engineering research facility tours and presentations. Presentations by the Honors College, Office of Admissions, Office of Study Abroad, The Center for Spartan Engineering (co-op/internship opportunities), and the Engineering K-12 Outreach Office add an additional level of information for participants. Programs include approximately 35 intentional contact hours each session.

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Outcomes

Participants completed a post-evaluation and provided the below feedback on several aspects of the program, including academic sessions, college readiness, staff, social activities, and more.

- The highest-rated benefits of the program were a more clear identification of the student towards engineering, getting to meet people different from themselves, and enjoying engineering on a greater level.
- After participation, 96% of students rated their knowledge of engineering as "Moderate understanding" or "Very good understanding."
- 91% of participants rated the program as "Excellent" or "Good"
- The majority of participants agreed that both College of Engineering faculty and the mentors were helpful and easy to approach, with specific praise given to student mentors.

Participant testimonials:

- "All of the mentors were very helpful with everything, and overall had a great experience"
- "The best part of the HSEI program was getting involved with other teens and getting hands on experience with college professors"
- "Talking with mentors about their personal experience and learning from them and our professors was the best part of the program"

Additional Significant Information

HSEI staff includes personnel from the office of Recruitment & K-12 Outreach, professors from different departments, graduate and undergraduate student mentors. The engineering sessions provide a great opportunity for prospective students to explore engineering at MSU and connect with faculty.

Contact Information

Luis Donado
Assistant Director for Recruitment & K-12 Outreach, Summer Program Coordinator
428 S. Shaw Ln, Room 3200 Engineering Building
East Lansing, MI 48824
Phone: 517-353-7282
Email: donadoto@egr.msu.edu
Website: http://www.egr.msu.edu/future-engineer/programs