

High School Engineering Institute



COLLEGE OF
ENGINEERING

6/22-26, 7/13-17, 7/20-24

Audience

Three separate sessions throughout the summer were attended by 130 total participants (93 males, 37 females, 26% minority), ranging from high school sophomores to incoming college freshmen. Students came from all over the United States and other countries (Brazil, France, Korea), and were selected based on GPA, transcripts, and completed applications.

Funding

Participants paid a fee of \$770, which covers all academic sessions, fun activities, as well as room and board. A limited number of scholarships from private donors are available for high-need students.

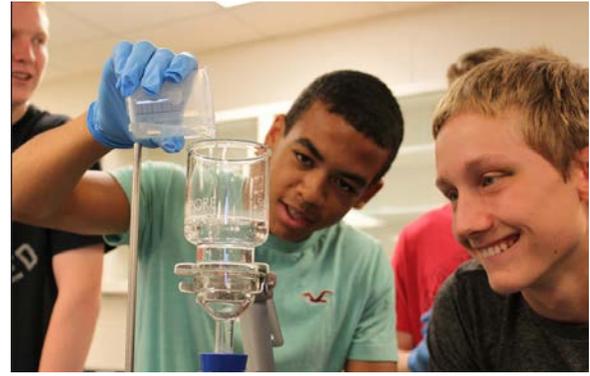
Objectives

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.



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, developing teamwork skills, preparing to attend college and an increased likeness towards engineering
- Prior to participation, 59% of students rated their knowledge of engineering as "Moderate understanding" or "Very good understanding," which raised to 94% of students upon completion of the program
- 97% 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

Participant testimonials:

- "It exposed me to fields of engineering that I was not previously familiar with"
- "It has made me more confident that engineering is the right path for me"
- "The best part was experiencing college on a level deeper than just a tour"

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

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