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National Science Foundation - Research Education for Teachers and the Experience for Students

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Abstract

The National Science Foundation - Research Education for Teachers was comprised of nine students, five engineering and four education, and a large number of professional educators and engineers. The program lasted six weeks and allowed for the students and professionals to explore both STEM curriculum development and engineering design challenges. This program was intended to be an educational experience for everyone involved: the education students were presented with a broader knowledge of the different fields of engineering, and the engineering students gained insight into the standards and development of STEM curriculum. The program was a success from the perspective of participating students, as each found it to be a positive experience which affected their personal educations as they move through their college careers.



Educational Opportunities

Students were presented with and expected to attend daily lectures which covered topics in Engineering and Education. These included, but were not limited to:

- Exploration of Engineering Disciplines
- Curriculum Writing
- Engineering Design Process
- Workshop Safety Techniques

Experiences

The Experiences that the Students got to participate in included:

- Educational Industry Tours to:
 - DP&L Coal Power Plant
 - Bertec Corporation
 - GreenSource
 - Persistent Surveillance Systems
- Projects for Everyone
 - Prosthetic Design
 - Five Rivers Metroparks
 - UDRI
 - Prosthetic Leg
 - Writing and Presenting STEM Curriculum
- Team Projects
 - Indicator for Camera System
 - Water Collection System
 - Solar Laptop Charging Station
 - Handheld iPod Charger
 - Pressure Pad Carrying Case