



# Engineering and Robotics Camp

Special Report  
Summer 2012 Volume I



## Creating Leaders

*We want to let students see what engineering is, what skills are needed, the jobs that are available, and the fun that it is to be an engineer. ~John O'Haver, Ph.D*

The Center for Mathematics and Science Education created the Engineering and Robotics camp in an effort to offer an environment in which young adults can experience engineering first hand. Mathematics and science educators are preparing students for jobs that do not yet exist; therefore, it is important for students to be provided with the opportunity to engage in learning to become fluent problem solvers. The Engineering and Robotics Camp exposes the campers to challenging experiences in STEM (Science, Technology, Engineering, and Mathematics) fields while allowing them the opportunity to work as a team to complete challenges focused around these areas.

In 2012 the CMSE welcomed 18 high school students to camps for a week of hands-on Engineering. The students spent 5 days learning how to build and program robots as well as creating a "Mars Rover" out of Legos Kinex. For many of the students, this camp was the first opportunity that they have ever been given to learn and experience what engineers do.

Many of the students showed up on Sunday unsure of what to expect and not knowing what an engineer really does. At the end of the camp, the campers and parents were begging the CMSE to come up with a second year camp so that the students could come back and experience even more hands-on engineering. This year the CMSE is working with other departments on campus to create two engineering based camps. The hope is to provide a specialized robotics camp as well as an additional camp that will be geared more towards another specialized area of engineering.

## **Impact**

The UM Engineering and Robotics camp hosted 18 campers in the summer of 2012. Of these campers we had 9 males and 9 females ranging from rising freshmen in high school to a rising freshman in college



## **Expectations**

Since this camp was a first year camp, the expectations for those involved with this camp were vast. Students didn't know what to expect, many feared that a week of Engineering in the summer would be "boring". Instructors expected to be able to make a difference. The CMSE expected to create a foundation on which to build and to offer a new avenue for students to be exposed to engineering.



## **Rewards**

As an educator, the reward that is most coveted is making a difference in a student's life. Engineering camp offers that in more ways than one. The students are rewarded for successfully completing the task at hand. The instructors are rewarded when smiles light up the students' faces. The CMSE is rewarded by the parents and students begging for more. The biggest reward is for society, as at the end of this camp there are more students wanting to make a difference.



For More Information on the Engineering Camp program or any of the programs offered by the  
Center for Mathematics and Science Education

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