University News
Appalachian State University

Area students explore the world of engineering during Future Engineers’ Camps
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HICKORY—More than 200 public school students are exploring engineering fields through the annual Future Engineers’ Camps held this summer at the North Carolina Center for Engineering Technologies (NCCET) in Catawba County.

The five, week-long day camps are held in collaboration with Catawba Valley Community College, N.C. State University and Appalachian State University. This summer’s camps attracted students from Alamance, Alexander, Buncombe, Burke, Caldwell, Catawba, Cumberland, Durham, Iredell, Guilford, Lincoln, McDowell, Mecklenburg, Mitchell, Rutherford, Watauga, and Wilkes counties.

Students ranging from rising 3rd graders to rising 10th graders have been selected to join in the engineering camps and complete activities to better understand the math, science and technology involved in various engineering STEM disciplines — science, technology, engineering and math.

The program is supported in part by a $6,000 gift from the Duke Energy Foundation and a $5,000 gift from USConec, a telecommunications company in Hickory.

“These contributions have made a difference for the education of children, from the public schools, private schools, and home schools,” said Dr. Sid Connor, NCCET director.

In addition to providing access to university degree programs in engineering and related disciplines, a goal of NCCET is to encourage the math and science interests of children so that they will be more likely to...
pursue careers in STEM disciplines.

Students in the 2014 Future Engineers’ Campus engaged in activities related to multiple disciplines in engineering including: biomedical engineering, chemical engineering, structural engineering, mechanical engineering, civil engineering and electrical engineering. In addition, rising 3rd through 8th graders constructed and programmed autonomous robots to complete particular tasks.

Rising 9th and 10th graders in the Product Development Camp used computer-aided design (CAD) software to design a product and create a scaled prototype using a laser cutter. After evaluating the prototype, the campers utilized a three axis CNC router to make their final product.

The new Lego EV3 robots are built and programmed during the Robotics camps designed for students in 7th and 8th grades. During the week, students programmed the robots for SUMO competition, NANOQUEST, Nature’s Fury and Space Challenge competitions.

In the past five years, 735 students have received instruction through the camps taught by 86 licensed teachers and 73 teacher assistants. “Having these students participate in these engineering-related activities gives me new hope for the future,” Connor said. “We have some very bright young men and women who are gaining insights into the career fields in engineering. Our hope is that we have given them a vision of a very fulfilling career.”

Partnering N.C. State University’s College of Engineering and the Catawba Valley Community College (CVCC), NCCET began offering the summer week-long day camps in June 2010.

“These camps continue to be a success and are addressing a critical need at a critical age,” Connor said. “Students typically lose their interest in science and math between elementary and middle school ages. The objective of these camps is to keep the students interested in science and math and allow them to pursue STEM careers.”

For more information and to view pictures from these camps, please visit http://ncet.appstate.edu/future-engineers-camps-2014.

Connor said a study is planned for 2017 to learn what post high school education, training and jobs the 2010 campers have pursued. The study will be used to determine the long term impact of the camps on the students’ career decisions.

Information about next year’s camps will be announced at http://ncet.appstate.edu. Applications will open Jan. 1, 2015, for the summer 2015 camps.