Milligan's ITQ workshop helps teachers in STEM areas

MILLIGAN COLLEGE, Tenn. (June 22, 2016) – When Tyler Chambers pulled the pin out, the tension in the wooden arm released and the large, homemade catapult fired, rocketing a tennis ball into the air and down the steep hill. The crowd cheered, giddy from the result.

But this wasn't a summer camp for kids.

Chambers, a chemistry and physics teacher at Cloudland High School, joined 29 other area educators this week at Milligan College's new engineering facilities located in the B.D. Phillips Building for the college's fourth Improving Teacher Quality (ITQ) Grant Program. This year, the program provided a week of free training to teachers in how to better engage students in the STEM (science, technology, engineering and math) disciplines, as well as provide free graduate school credit to the participating teachers. Other activities and lessons this week included water rockets, water flow measurement, and hydroelectric power.

"Projects like these help us get students engaged," Milligan's Director of Engineering Programs Dr. Greg Harrell told the teachers as he demonstrated the catapult he built from scratch. "We're outside, we're making noise. This is an energizing act for students. Not only does it demonstrate engineering design and math skills, but it's a great ice breaker for students and helps them exchange ideas. It lets all range of students participate and learn."

Earlier that morning, the teachers also worked on building a much simpler and smaller version of the catapult out of ice cream sticks and rubber bands.

Jeremy McLaughlin, a physics and astronomy teacher at Sullivan Central High School in Blountville, Tennessee, said activities like these could be great for his classroom because they help students understand core scientific principles in a way that keeps them engaged.

The stick catapult project in particular got his attention.

"It's low cost and attainable for most students," said McLaughlin, who is attending Milligan's ITQ workshop with a group of fellow Central teachers for the first time. "You can have one for each student, and everyone has a reason to stay involved."

At one point, when the outdoor catapult fell off its brace, McLaughlin added another important engineering lesson from the project.

"When something in the machine's design doesn't work, it teaches you how to roll with it and adapt," said McLaughlin. "Science is about adapting to what you see."

Milligan will be adapting to the needs of area industry this fall when it launches its new engineering program, with majors in mechanical and electrical engineering—the only program of its kind within a two-hour radius of the Tri-Cities.

Local industry leaders already are endorsing the program and ready to offer internships and co-ops, as well as hire Milligan engineering graduates. Just last week, Eastman made a $250,000 commitment to the program. Learn more at www.milligan.edu/engineering.

The Milligan engineering majors have been reviewed and approved by the college's regional accreditor, the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Milligan also will seek accreditation from ABET, whose accreditation standards

the college's engineering program has been designed to meet. In addition, Milligan's engineering faculty are experienced and seasoned academicians who have been core faculty members in ABET-accredited programs. Local industry leaders already are endorsing the program and ready to offer internships and co-ops, as well as hire Milligan engineering graduates. More information on ABET accreditation can be found on the ABET web site at www.abet.org.

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MILLIGAN COLLEGE is a Christian liberal arts college in Northeast Tennessee whose vision is to change lives and shape culture through a commitment to servant leadership. The college offers more than 100 majors, minors, pre-professional degrees and concentrations in a variety of fields, along with graduate and adult degree completion programs. To learn more about Milligan College, visit www.milligan.edu or call 800-262-8337.