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Photo from left: Jake Meyer, Meral Sarper, Claia Sodden and Turki Tammar

By **Tom Hutton** | *CU Colorado Springs*

A team of UCCS engineering students shared their efforts to get middle school youth more involved in math and science during a demonstration May 13 at Jack Swigert Aerospace Academy, 4220 East Pikes Peak Avenue.

The open house featured the work of four UCCS students who developed and helped build a solar system courtyard as part of requirements for a senior mechanical and aerospace engineering design course. The courtyard and accompanying lesson plans were designed to spark interest in math and science for youth while providing the UCCS students hands-on experience in project management, design, and community service.

Led by Meral Sarper, senior, the team created a scale model of the solar system based on each planet's size and distance from the sun. The courtyard at the school's entrance features a concrete spherical cap for each planet along with a gravel ring around Saturn. Along with the courtyard, which allows for kinesthetic (hands-on) learning, the students developed a lesson plan called "Space Race: The Game" to help middle school youth with practical skills such as measurement and theoretical skills that include understanding the breadth of the solar system.

Sarper was part of an earlier student-led team that responded to a call for volunteers at JSAA issued by Peter Gorder, associate professor, College of Engineering and Applied Science. While that team made progress, it lost steam over summer break. Sarper then asked Gorder to consider the solar system project for his senior design course, a capstone where engineering students work in teams on a specific project and apply skills learned throughout their academic careers. There, she was paired with fellow seniors Claia Sodden, Jake Meyer and Turki Tammar.

"I love working with children that age. I coach gymnastics, too," Sodden said. "Astronomy is my favorite subject so I'm really glad I got to do this project."

For Meyer, becoming involved was personal.

"If I was in middle school, I would have wanted something like this."

For the UCCS students, the project represented a real-world project, complete with hurdles and compromises. The team members surveyed and interviewed school students and administrators to develop ideas within a limited budget. They also dealt with a myriad of details ranging from proper concrete mixtures, safety concerns, and hiring a contractor. They also practiced networking skills as they sought those who could assist them, eventually connecting to Terry Johns, a School District 11 architect, and to two UCCS students who helped paint details on the planets.

"The most important aspect of this project is to encourage the students at Jack Swigert to see that there are learning opportunities everywhere you look," Sarper said.

For details of the project, visit <http://jsaasolarsystem.weebly.com/> [2]

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Led by Meral Sarper, senior, the team created a scale model of the solar system based on each planet's size and distance from the sun.

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