

Students study math, science at SWOSU-hosted summer camp

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Students from across Oklahoma will once again convene on the Southwestern Oklahoma State University (SWOSU) campus for the annual Exxon Mobile Bernard Harris Summer Science Camp – offering students a hands-on learning experience in math and science.

“The point of the camp is to draw under-represented students in the science and engineering fields,” said Wayne Trail, SWOSU physics professor and one of the camp’s coordinators. “We want them to come here, do all this work and see this is something they can see and enjoy.”

Summer camp begins June 19 and ends July 1. Students will be immersed in the college experience – that includes living in dormitories and eating in the Student Union. SWOSU science and math faculty will be leading the classes in conjunction with area high school teachers – SWOSU students will provide student counseling.

The educational sessions will be in classroom and laboratory settings – offering students wide-ranging opportunities throughout math and

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the sciences.

Students will have several engineering and physics classes where they will gain experience in robotics through design and construction of Lego robots and a rocket science class meant to design and launch rockets. Wind power will also be explored as the students will build miniature wind turbines that spin and produce electricity.

Biology will offer participants a chance to dissect grasshoppers and sheep eyes, while a nutrition class will look at fats, nutrients and cells; study healthy eating and choosing a balanced diet. Additionally, students' math skills will be tested through math games.

"These games involve patterns or require you to do math in the course of the game so it challenges their math skills," Trail said.

Students will also study skills needed in science research through a research class requiring students to research a topic at the SWOSU library and write a research paper.

But, not everything is in a classroom setting and there will be opportunities to explore science and math outside SWOSU – even outside of Weatherford. That includes the ROPES course at Crowder Lake and Stafford Air & Space Museum. It also includes the Science Museum Oklahoma and Frontier City in Oklahoma City where students will discuss the physics behind theme park rides.

"It's really for kids who haven't gotten to learn about it much so the kids are just perfect for it," Trail said. "It's an honor

for me to get to work with the kids who are really excited about what I teach. They are really enthusiastic about it."

The camp was founded in 1999 by Bernard Harris, a retired astronaut who created the program to introduce science and math to under-represented students. While it might seem fitting that SWOSU is hosting a science camp founded by an astronaut, it was the Native American tribes across the state that drew Harris, who was raised on a reservation.

"The pipeline of students entering science, technology, engineering and mathematics – we felt – was shrinking," said Barbara Fouts, national camp director for the Harris Foundation. "We didn't have a large number of students entering in this area, especially under-represented students and under-served students."

The University of Houston hosted the first camp with SWOSU following the second year. This year will host 25 camps across the United States.

NASA originally provided funding for the program but the space agency changed the direction of their focus leaving the door open for Exxon Mobile to join the program in 2007. Exxon Mobile provides grants for each participating university to host the camp.

"We think it's important to have students exposed at an early age with an educational experience that they really do not get in a school setting," Fouts said. "We (want) to expose them at an earlier age in the college experience so they can start thinking about that and preparing for that in high school."