

STEM Pathways Camp



Ethan Tang used a 3D printer to make a Tyrannasaurus Rex from Google's Dinosaur Game

Local high school students and some first-year Clark College students were immersed in hands-on experience in Science, Technology, Engineering, and Math fields during Clark's STEM Pathways Camp on June 26 and 27 on the main campus. There was no cost for any students to participate in the camp, which was funded by Guided Pathways and Clark College Foundation.

Each student had the opportunity to experience six different activities:

- Bioplastics and Green Chemistry Design-Thinking
- Compass, Pacing and Triangles (Surveying and Geomatics)
- Thinking Embedded

- Intelligent Transportation Design (Automotive Technology)
- Native Bees (Biology)
- 3D Printing (Engineering)

Hands-on Learning

Students participated in hands-on STEM activities with college professors.



In the Science building, professors Tim Kent and Brian Miyake introduced students to the field of geomatics and surveying and talked about educational and career paths. Then Professor Kent, *above* ushered students outside and led them through an exercise of walking to determine their pace factor, calculating the length of their average step. Pacing is an integral part of surveying.



Inside the STEM building Collaboratorium lab, Professor Gerry Lazo, *above* stopped at tables to assist high school students with 3D printing. Emma Revis, closely watched as a 3D printer replicated an intricately detailed maple leaf. At a nearby table, Ethan Tang, *top* printed a blue Tyrannosaurus rex, a character in Google's Dinosaur Game. Both are students at Mountain View High School.



In front of the STEM building, biology professors Steven Clark and Christine Gregor directed students as they conducted bee surveys in the Bee Garden. In groups of three, students walked a 200-foot transect and counted all the native bees and honeybees they could find. *Above:* holding a clipboard, Mel Lopez, who recently completed her first year at Clark College, teamed up with Isaiah Weatherspoon and Caleb Wrede. Both will be juniors at Mountain View High School in the fall. Peering into the wildflower blossoms, they looked closely for bees—and spotted a *Bombus*. Mel marked it on their tally sheet.



A STEM camper chooses a design for the 3D printer.

Each group of STEM campers had two MESA mentors, current Clark students who are successfully pursuing a STEM degree and who can advise high school students about getting started on a college path.

“The MESA mentors are an integral part of STEM camp,” said Professor Carol Hsu. “The high school students can look to the mentor as someone who is succeeding at college and has chosen a career path.”

Dr. Steven Clark said, “Two of the strategies to attract and support MESA students are to enhance engagement and to help students have a realistic expectation of what college work is like. The Bee Survey did both. It’s a fun, engaging activity but it also is what is required of biology majors at Clark.

The STEM camp students did a great job with their sharp eyes and their enthusiasm to find even the tiniest native bees. One

group found a leafcutter bee carrying a cut flower petal into her nest—a very impressive sighting. Another group caught a native bee that was so small that it squeezed through the tiny air hole to escape from our viewing jar! It was the size of a grain of cooked rice!”



Automotive Technology Professor Brandon Johnson tells campers about the program

In addition to engaging in hands-on learning activities, the camp also provided students with free Clark College T-shirts plus breakfast, lunch and snacks.

The STEM camp was created in collaboration with the college’s Guided Pathways initiative, led by Rhianna Johnson, director of Guided Pathways Partnerships.

“Career exploration is a critical component of the Guided Pathways model,” said Johnson. “For students to begin a career pathway, they need opportunities to learn about the many options available and to gain exposure to industries that they may not be familiar with. Research shows that different demographics receive disparate levels of career guidance and exposure, based on a number of factors that can create equity

gaps related to pursuing high wage, in-demand programs.”

Clark faculty and staff spread the word about the camp via social media and by contacting nonprofits that work with youth, including Girls Inc. and iUrban Teen. Johnson already is making a plan to reach more students to attend next year’s camp.

She added, “The STEM camp was invaluable for showing students what career opportunities are available in STEM fields. Planting that seed.”

Photos: Clark College/Susan Parrish