

[Young scientists come from all over the state for robotics program](#)

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Students come from all over the state for robotics program

By **PENNY FLETCHER**

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RUSKIN — Last week I found some students in summer school because they wanted to be. Not because they'd failed or been in danger of falling behind. They were there by choice, because of their love of – or special interest in – science, especially robotics.

Although the week-long robotics camp has been offered at the Brandon and Tampa campuses of Hillsborough Community College before, this is the first year it has been brought to HCC's new South County campus.

"These kids have come from three counties," said Elizabeth Heli, a technical education teacher who normally works in Greco Middle School's Engineering STEM Institute. (STEM meaning science, technology, engineering and math.)

Heli supervised the summer program students along with Carlos Ortiz, a computer science instructor at HCC.

"These are mostly very advanced students who want to do well in math and science and we want to show them the careers that are available once they get out of school so they can choose their high school courses accordingly," Heli said.

That's the reason the FLATE program – sponsor of the robotics camps and other student events – began bringing middle school students into special science and math programs instead of waiting until high school like they used to, said area FLATE program director Dave Gula.

Gula is the local outreach manager for the community college and outreach director for the National Science Foundation's (FLATE) program: or Florida Advanced Technological Education Center, which developed and sponsors the robotics program.

Because of the fast-changing technology, high school and even standard college courses do not always prepare students to fill jobs; and many good jobs do not require a college degree.

Gula goes to various locations and shows interested students how learning about robotics will give them many job opportunities never before available.



Penny Fletcher Photos

Rowan Murray of Manatee County, foreground, and Amaya Ashmore of Guinta Middle School in Brandon, attend the week's Robotics Camp held for the first time on the South County campus of Hillsborough Community College last week.



Ben Simon was a teacher's aide in his science class last year while a student at Barrington High School and has worked with robotics before taking the 5-day session held by FLATE (the Florida Advanced Technological Education Center).

in the nation," Gula continued. "But in Florida, the figures show that for every 100 students who enter ninth grade only 17 end up earning a four-year college degree."

Previous generations have taught that all good students, especially those with high aptitudes in science and math, can only get good jobs with a college degree. But now, with all the new technology available, factories and other production-type employers need people with math and science skills, and many good jobs at these places do not require a college degree.

"We only had specialized programs like this for high school students until recently," said Gula. "This is our first time bringing middle school students in, and also our first year in this area of Hillsborough County."

"We have about 30 camps going around the country and we have one here that works with big manufacturing companies to show people that factories aren't the dirty, smoky places they used to be. In the past few decades, factories have become some of the cleanest, best places for people to work," Gula said.

This is the eighth year since FLATE first got together with a group of people at USF and manufacturing groups to begin designing the

The five-day robotics camp starts with teaching the students to put together robots using a kit and then program their robots using computers. When correctly programmed, the robots can respond to their maker's commands when they hear certain sounds, like hand-clapping.

By the fourth day of camp, the students were making their robots turn corners, back up, and spin around.

Manufacturing companies helped FLATE design the program because they fear not being able to fill their future needs, he said.

FLATE was able to get community colleges on board by working with the Florida Department of Education in Tallahassee after reviewing statistics for the state.

"Figures released by the Florida Department of Education show a large discrepancy between how many students enter ninth grade and how many end up graduating college with a four-year degree. I don't know if this is better or worse than any other state

The robots, once built and computerized, were programmed to make turns on a "runway" by a combination of voice recognition and clapping hands.

program. "It grows and changes every year," he said. "Parents bring their kids on a first-come first-served basis. Not everybody gets in."

There are three basic responsibilities of the FLATE program: meeting the requirements of the manufacturing companies; providing professional development for teachers in the schools and using outreach techniques (such as the robotics program in progress) to show students about possible careers they never knew existed.

"The old image of factories pouring filthy smoke through manufacturing towns has got to be replaced," he continued. "We want parents to know these things and get students interested by middle school so that by high school they are planning their careers. Some companies even pay interested students to train once they are employed."

There are lesson plans and home school students are also welcome and some sponsoring manufacturing companies even send the students on tours of their factories as well as on fun trips, like Disneyworld, he added.

FLATE outreach recently gave a presentation to FISH, Families Involved in Schooling at Home.

Students have come to the Brandon campus from as far away as Tallahassee and Orlando, he said. At this point, the cost to parents is \$50 for each child for the week-long program.

The final phase of programming the robots these young scientists made at Robotics Camp is programming them to act upon certain commands through the use of computers.



"We wanted this to be an option for anyone interested in science, not just the wealthy," Gula said.

Parents, teachers, prospective students and school administrators who wish to find out more may go to two Web sites: www.fl-ate.org explains the history and mission of FLATE, and www.madeinflorida.org tells about the careers and some of the manufacturers involved in future careers.

"I would recommend people check out the Made in Florida site as well," Gula said.

"That's the information parents need to get their kids started."



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