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Preparing Our Future Workforce

Crossroads students get unique perspective on math, robotics at 24th annual event

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Students learned Thursday about the affects of Artificial Intelligence using intelligent assistant Siri on their Apple devices.

?I always look forward to this event,? said Ricardo Teixeira, a UHV assistant professor of mathematics. ?It?s such a great opportunity for students to learn while considering attending college after high school. It?s also a good opportunity to work with teachers and bridge gaps between the schools. We?re really happy to see there?s a benefit for all who participate.?

Teixeira?s ?Mathemagics? presentation was part of the 24th annual Mathematics & Robotics Awareness Day at the University of Houston-Victoria. A group of 155 high school students from 10 area high schools took part in activities that included mathematics and computer science tests, learning sessions and technology demonstrations. High schools with students participating in the event were Beeville, Calhoun, Edna, Goliad, Hallettsville, Liberty Academy, Sacred Heart in Hallettsville, St. Joseph, Career and Technology Institute, and Victoria West.

A grant from Alcoa Foundation funded the event as well as robotics courses for high school students. The grant also will fund summer math and robotics camps at UHV for 14- through 18-year-olds. For more information, visit www.uhv.edu/stem-events .

During the day, students attended learning sessions focusing on ?Mathemagics,? presented by Teixeira; the concept of emotions incorporated into Artificial Intelligence, led by Rogerio Silva, a UHV assistant professor of computer science; and computer algorithms applied to strategy games, taught by Hongyu Guo, a UHV associate professor of computer science. Each session offered demonstrations about how math and technology can be used in everyday life.

Students also were able to visit booths set up by various groups and companies, including Caterpillar, CivilCorp, UHV Admissions & Student Recruitment, UHV School of Arts & Sciences, a Victoria Independent School District engineering class, Daniel White, director of the UHV in Biomedical Sciences graduate program; and students from Amjad Nusayr?s high school robotics course.

Recipients of the top three computer science scores won a trophy and an iPad tablet. The winners for the computer science contest were:

- First ? Trevor Bellamy, Goliad High School
- Second ? Daniel Beaver, Calhoun High School
- Third ? Luke Renner, Hallettsville High School

This was Renner?s first year attending the event. He said he found Teixeira to be a great teacher.

?The ?Mathemagics? tricks were really interesting,? Chen said. ?I had a lot of fun, and you?ll see me here again next year, maybe in third place, maybe higher.?

The mathematics tests were divided by grade. The second- and third-place winners received medals, and the first-place students in each grade won a trophy and an iPad tablet. The winners of the math contest by grade and high school were:

- Freshmen ? Ian Chen, Calhoun, first; Kary Xu, Calhoun, second; John Andruss, Victoria West, third.
- Sophomores ? Jessica Zhang, Calhoun, first; Orlando Di Leo, Victoria West, second; Kelly Xu, Calhoun, third.
- Juniors ? Bekka Alex, Hallettsville, first; Michael Van Hooten, Victoria West, second; John Cesarz, Sacred Heart?Hallettsville, third.
- Seniors ? Pranav Jain, St. Joseph, first; Chris Ralston, Victoria West, second; Marco Di Leo, Victoria West, third.

Jain has been a participant in the event since he was a freshman and recently was admitted to the Texas A&M

University Engineering to Medicine program that guarantees him a spot in medical school upon post-secondary graduation.

?I always attend these and the summer events because I learn a lot,? he said. ?This year, I especially enjoyed seeing the anatomy machine because it was fascinating getting to see through the human body.?

The University of Houston-Victoria, located in the heart of the Coastal Bend region since 1973, offers courses leading to 70 bachelor?s, master?s and specialist degree programs and concentrations in the schools of Arts & Sciences; Business Administration; and Education, Health Professions & Human Development. UHV provides face-to-face classes at its Victoria campus, as well as a teaching center in Katy, and online classes that students can take from anywhere. UHV supports the American Association of State Colleges and Universities Opportunities for All initiative to increase awareness about state colleges and universities, and the important role they have in providing a high-quality and accessible education to an increasingly diverse student population, as well as contributing to regional and state economic development.

http://news.uhv.edu/release.aspx?id=4966

High school students learn about robotics, programming during UHV class

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Programming and computers fascinate Devin Gonzalez, so he jumped at the chance to take an after-school robotics class through UHV.

?My engineering class teacher told me this was available and encouraged us to apply,? said Gonzalez, a Victoria West High School senior. ?I enjoy working with computers, and programming is a good skill to have, especially if I become a mechanical engineer.?

Gonzalez is one of 14 students taking the UHV School of Arts and Sciences? 2018-2019 Robotics, Programming and Simulation Courses/Research Projects funded by a grant from Alcoa Foundation. The courses are offered Monday and Tuesday afternoons in UHV University North and are led by Amjad Nusayr, a UHV assistant professor of computer science.

?The after-school robotics courses are part of a program the university has offered for years, and I am excited to see it continue,? Nusayr said. ?We?ve only met for a couple of weeks, and the students already are starting to develop programs that direct their robots to complete simple tasks. It?s wonderful to see how quickly they learn.?

The weekly course allows students to work in pairs to build and program robots to fulfill certain functions, such as solve mazes, recognize colors and follow a color-coded path. During the first class meetings, students took an assessment to evaluate their knowledge of science, technology, engineering and mathematics. During the last class at the end of the spring semester, students will take a similar test to evaluate how their knowledge has grown, Nusayr said.

Jace Vasquez, a Victoria West junior, chose to attend the class because he wants to pursue a career in engineering, and learning about coding and robotics is a good fit for his studies.

?This class is giving me the chance to learn all kinds of things I never knew and didn?t have the chance to learn about before,? Vasquez said. ?I?m interested in how and why things work, and I want to be able to apply that knowledge to make things better.?

The overall goal of the class is to introduce programming to high school students, including critical-thinking and problem-solving skills. There also is a goal of helping students break away from the intimidation often experienced when studying math and programming, Nusayr said. Students in the after-school classes have been eager to learn about the different programming options and tasks their robots can complete.

?On the first day of class, we started teaching the students all the basics, and just two weeks in, they?re already working on programming sensors,? Nusayr said. ?It?s great to see how excited they get about each of their successes as they learn to program and design their robots. That makes my day.?

In addition to the class, the grant from Alcoa Foundation allows UHV to offer a robotics summer camp, a math camp, a Texas Women in Computing camp for middle school girls, and a Math and Robotics Awareness Day that allows high school students to learn about the uses of math and robotics in multiple fields.

https://www.victoriaadvocate.com/news/high-school-students-learn-about-robotics-programming-during-uhv-class/article_8dde975c-45c9-11e9-acc5-63edcee3d79b.html