codeShack

Google funds computer science mentor program at Andrews

University engineering and computer science students mentor 7th and 8th graders at RMES in computer programming in a University outreach called codeShack.

By: Chris McLean-Wheeler

In March 2017, the Department of Engineering & Computer Science (ECS) received a grant from Google's igniteCS program for their outreach program titled "codeShack." igniteCS offers funding and resources for university students to help them mentor their communities in computer science.

codeShack is the ECS outreach program at Ruth Murdoch Elementary School on the campus of Andrews University, where they provide a coding and creative project class for grades 7–8.

"We plan to use the funds from this grant to acquire more robust equipment, software, and other necessary supplies, as well as to enhance and expand our coding program for all grade levels," writes Evelyn Savory, RMES principal, in an open letter. "Though the demand for coding is high with teachers and students, the lack of equipment and staff prevents these classes from regularly being offered."

codeShack's website describes how it was designed to offer coding as part of the curriculum for RMES students, as the founders had noticed the lack of computer science courses in the past.

"As a result, we designed a hands-on program that lasts an entire quarter for the elementary students and half a semester for the college students," comments Huang, one of the student leaders involved in the program. She adds that codeShack teaches how to code in the programming language "C" and how to work on team projects using the "Arduino UNO," a simple computer board designed to perform single tasks.

"We started this effort last year in partnership with RMES and it has been hugely successful," says Hyun Kwon, chair of ECS and faculty advisor for the group. "We try to elicit interest in engineering and programming through hands-on activities and coding experiences, and we think the approach is working well."

codeShack is student-led, with ten mentors and six student leaders. The student leaders are Daniel Bronowski, Nathaniel Gutierrez, Darrick Horton, Shannon Huang, Mykhaylo Malakhov and Justin Wiley. The students visit RMES two times per week to work on the coding project.

"The aim is to introduce kids to computer science in a fun and meaningful way," commented Wiley.

Additionally, the student leaders are responsible for other aspects of ensuring codeShack's smooth operation.

"I was the one who compiled and edited all of the information for the application at the end of the process as well as assisted in the making of the codeShack website." Huang explains. Kwon recommended Huang to the team because of her experiences as an English major and a leader of Women in STEM at her high school.

codeShack specifically provides optional after-school classes where concepts and applications of computer science can be taught. According to the program's website, codeShack aims "to simultaneously pace and challenge students."

"Many kids do not have the exposure to coding and programming that allows them to develop an interest in this amazing field," explained Wiley. "The purpose of our program is to provide that experience."

Wiley adds that because students lead out in the project, codeShack divides the RMES students into small groups. Each group of two to four RMES students is mentored by a University student who visits the group twice a week as teacher and mentor.

"I'm so proud of all our six student leaders who promoted this program and the ten student mentors who participated in the program this semester," Kwon comments. "Programs like this are impossible unless students who want to serve the community and become role models put in the necessary time and dedication to make it happen."

The students' hard work does not go unnoticed.

"I greatly appreciate all the Andrews students and their faculty advisor who come to the classroom and interact with our students," Savory says. "It requires great responsibility on the part of the University students to committing many hours twice a week as volunteers for this service to our young people."

Google's igniteCS program is one of many initiatives to foster learning in computer science.

"Our short-term goals involve using that funding and the addition of professional mentorship to our advantage in the coming year," Huang comments.

Ongoing support is given to these funded programs, which will receive access to discounts, guidance and industry mentors of their own.

"I'm so glad that we received Google igniteCS recognition for this effort," Kwon comments. "The funds will be used to improve, promote and sustain the program."

"We hope to continue applying for igniteCS funding and becoming a part of their 'legacy' team," Huang explains. "If we succeed, the codeShack program at RMES can grow and expand to the other students and fields, and offer new opportunities to University students, too."

For more information about codeShack, visit sites.google.com/view/codeshack. To learn more about the Andrews University Department of Engineering & Computer Science, visit andrews.edu/cas/ecs, email engineering@andrews.edu or computing@andrews.edu, or call 269-471-3420.

Related Links

- What is codeShack?
- More about C programming
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