

New federally funded programs attract kids to computer science

an Essoyan

@staradvertiser.com

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>> High school students interested in cybersecurity may be eligible for free GenCyber camps in Hawaii this summer. To learn more, visit www.gencyber-hi.org.
 >> The computer science standards recently adopted by the Hawaii Board of Education are online at www.csteachers.org/page/standards.

ture and University of Hawaii. After hearing from Cakobau and others May 3, the board adopted the national Computer Science Teachers Association's K-12 Computer Science Standards, joining a growing national movement. The standards act as guideposts

for curriculum, starting in elementary school.

The University of Hawaii at Manoa landed a three-year National Science Foundation grant worth nearly \$1 million to train public school teachers to teach courses in computer science principles, such as the one that captured Cakobau's interest. The first cohort of teachers will be trained this summer.

"The thing that's exciting is we've seen this collective recognition that computer science matters, these learning opportunities are important," said David Miyashiro, founder and executive director of the nonprofit HawaiiKidsCAN. "We've seen a lot of the major power brokers in Hawaii all decide that, 'Hey, we're going to be pushing together in the same direction.'"

Legislators passed House Bill 2607 on May 1, providing \$500,000 for teacher training in computer science and



COURTESY DAVID MIYASHIRO

Adi Henrietta Cakobau, left, who graduated from Campbell High on May 18, took time earlier this month to urge the Board of Education to adopt computer science standards.

mandating that every public high school offer the subject by 2021. It is now before Gov. David Ige, who recently joined a national GovsForCS partnership.

This academic year, 21 of the state's 45 public high schools offered computer science. Students at the other campuses can sign up to study it online.

This summer, UH is offering free GenCyber camps

across the state for high school students and recent graduates, sponsored by the National Science Foundation and the National Security Agency.

"The myth is that computer science is just coding, but it is beyond coding," said Hilary Apana-McKee, administrator for the Learning and Technology Section

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of the Department of Education. "It is promotion of skill sets that we want our students to have when they graduate, versus just computer science."

She added, "The ideal end result is a student that can problem-solve, a student that's innovative, collaborative, creative and has real-world experiences. That is what computer science can offer."

A separate NSF grant awarded to UH Manoa will provide scholarships for students pursuing cybersecurity-related degrees. The CyberCorps Scholarship for Service program aims to train cybersecurity professionals to enter the government workforce. It runs through 2021 and is worth about \$1 million a year.

Hawaii's students are already showing promise in the field. A team dubbed Validity, made up of four recent graduates of UH West Oahu and Honolulu Community College and one current UHWO student, won the National Cyber League competition last month. The contest, billed as the "leading collegiate educational cybersecurity challenge," attracted 264 teams this year.

"We named it Validity ensuring that everything we do is verified and corrected by each other," said Jayson Hayworth, captain of the team, which also included Bryan Tanaka, Gabriel Fari-

nas, Tim Gunderson and Taylor Kina. "Honestly, when it came down to it, our teamwork was flawless and we executed well."

Younger kids are also getting on the bandwagon. The new cybersecurity club at Kailua Intermediate school, the Junior Surfriders, recently came out on top in their division in their first CyberPatriot state competition. The team had to manage the network of a small company and detect vulnerabilities in its operating system.

"We used to be afraid of burglars entering our houses, but there is a new type of thief in cyberspace and with cybersecurity we can stay one step ahead of people who try to steal information," said Elijah Neighbarger, an eighth-grader on the winning team.

Superintendent Christina Kishimoto calls the state's new computer science standards "a first step" and said curriculum development will be led at the school complex level, rather than being top down from the state office. She said the goal is to "provide equitable access to all of our young people." The standards are available online at www.csteachers.org/page/standards.

"The great thing about the website is that the standards are searchable," Apana-McKee said. "For teachers who are just getting started, they can search by grade level, by topic, whatever their comfort level is. It's a really dynamic site."