



For more information, contact:
Sean Raser, California High School
925.803.3200, sraser@srvusd.net
Dan Romanchik, KB6NU, ARDC Content Manager
858.477.9903, dan@ardc.net

FOR IMMEDIATE RELEASE

High School Students Become Makers to Learn Computer Science

Computer science AP class uses microcontrollers and sensors to develop hands-on projects that teach computer concepts

September 30, 2021—Sean Raser, the Computer Science AP Class teacher at California High School, in San Ramon, California, believes that a hands-on approach is the most effective way for students to truly learn and retain knowledge. This means encouraging students to invent their own systems using Raspberry Pi computers and Arduino microcontrollers. By combining these devices with sensors, motors, other electronics, and computer code, students have the opportunity to learn complex technical concepts in a very hands-on way.

Raser's challenge has been acquiring enough hardware for all of the students in his class. With limited resources, his program has been limited to a small number of students.

A \$9,950 grant from Amateur Radio Digital Communications (ARDC), a private foundation, is changing that. The grant will allow Raser to give all of his students the opportunity to participate. The funds will allow him to provide students with Raspberry Pi's, Micro:bits, Arduinos and the other parts that they need to express their creativity and become makers. In addition, he is transforming part of his classroom into a makerspace that is accessible to all students at California High School.

According to Raser, "The results have been extraordinary. The students' creativity and passion for learning truly thrive as a result of being able to bring their own ideas to life." One student, for example, is using a Raspberry Pi Zero and a variety of sensors to record flight data during a model rocket launch. Another has built an automated attendance taker using a Raspberry Pi and RFID sensors. Raser's hope is that these experiences will nudge these students into careers as engineers and scientists and change our world!

About California High School

California High School's mission is to educate, empower and inspire all students, promote academic and personal growth, foster healthy interests, and develop resilient mindsets and self-efficacy, guiding all students to become ethical, global citizens.

Learn more about CHS at calhigh.schoolloop.com

About ARDC

Amateur Radio Digital Communications (ARDC) is a California-based foundation with roots in amateur radio and the technology of internet communication. The organization got its start by managing allocations of the AMPRNet address space, which is designated to licensed amateur radio operators worldwide. Additionally, ARDC makes grants to projects and organizations that follow amateur radio's practice and tradition of technical experimentation in both amateur radio and digital communication science. Such experimentation has led to broad advances for the benefit of the general public – such as the mobile phone and wireless internet technology. ARDC envisions a world where all such technology is available through open source hardware and software, and where anyone has the ability to innovate upon it.

Learn more about ARDC at ampr.org.