CASE STUDY:
PETALUMA HIGH SCHOOL

Introduction:

Petaluma High School (PHS) is located about 40 minutes north of San Francisco in Petaluma, California, with a student population of about 1,300. In December of 2014, the PHS administration realized that offering computer science courses was integral to student success, and decided to incorporate an AP CSA class. When Principal David Stirrat began to search for a teacher to facilitate the course, math teacher Doug Cox quickly stepped up. Cox was new to programming at the time, explaining that “I remember watching an Hour of Code video with my students and thinking that I would like to learn more about it.” He opted to take a local junior college intro class in C++ over the summer to prepare.

At this point, PHS only needed a solid curriculum around which to structure the new AP CSA course. Another high school in the area was
utilizing the TEALS program, which pairs computer science professionals with teachers to team-teach in classrooms. “We tried TEALS at first,” described Cox, “but quickly realized it would not work at our school. We understood right away that recruiting professionals would be difficult and having to depend on them to teach the curriculum daily would be very problematic, since they would often be pulled away by their own work schedules. When I heard about Edhesive, I realized that it was definitely the way to go.”

Implementation and Success at Petaluma High School

For the first year, Cox worked through the AP CSA coursework a few weeks ahead of his students, and is very fortunate to have additional classroom coaching support from community volunteers, including a Java programmer and a retired chemist. Partway through the first year, Cox realized that the students could greatly benefit from an intro course, and worked to include Edhesive’s Intro CS (Python) course for the following school year. “The two primary things that prepare students for success in an AP CS course are prior coding experience and high-level math experience past Algebra II. They learn how to better solve problems and analyze situations, which is a key component of programming in AP CSA,” suggested Cox. This year, 57 students make up two sections of Intro CS, and 24 students are enrolled in AP CSA.

“Intro CS is very enjoyable for the students,” Cox mentioned, “The graphics unit allows them to draw creatively and challenge themselves. Instead of just building a house, they can go above and beyond to create an amazing one. The videos on career options are also fun from a kid’s point of view. They seem to really be loving it.” The AP course is more straightforward, and Cox supplements the online curriculum with the printable tests and quizzes from the teacher packet so that students can practice writing out their code. “There’s a huge element of coaching kids on the difference between helping each other and plagiarizing in the AP course. I use the online tests and quizzes as practice tests, and use the offline versions as the assessments that officially count as a grade in the course,” informed Cox. “The fact that Edhesive automatically grades code online is huge, though. I wouldn’t have nearly as much time to teach if I constantly had to grade each student’s code.”

“Beyond just preparing students for careers in high tech and other industries, computer science courses teach students critical thinking and problem solving. Programming teaches students to consider all the steps needed to get to a solution. Thinking about what needs to happen to get from point A to point B is crucial,” expressed Cox. Since the introduction of Edhesive’s coursework at PHS, many students have gone on to study programming in college, including Cox’s own son, who is currently majoring in computer science at the University of California, Irvine.
Reflection

“As a teacher, Edhesive frees me from having to be responsible for creating curriculum and lectures. I’m then able to give much more time to help students one on one. In the classroom, we have the opportunity to discuss what is working and what isn’t. Some students work faster and some work more slowly, but the beauty of this coursework is that they can do it at school, they can do it at home, they can do it anywhere,” added Cox. “Even when I’ve had an issue, the Edhesive team has been really supportive. If there’s a problem, someone always gets back to me right away. It’s very helpful. I’ve been really happy with Edhesive.”

Outcomes at Petaluma High School

- PHS now offers both Intro CS (Python) and AP CSA through Edhesive.
- Programming coursework is teaching students how to problem solve and think critically.
- Many PHS students have gone on to study computer science in college.

Highlights for Teachers

- Edhesive grades students’ code in real time, freeing up the teacher for more one on one interaction.
- The online course allows students to access their work from anywhere, anytime.
- Intro CS (Python) is fun, engaging, and approachable to students with any level of experience.

Edhesive makes online learning accessible, personal, and meaningful. We combine online instruction from nationally recognized experts with the personal support of local teachers, who offer students face-to-face guidance and support.

Ready to find out what’s possible for your school? Email us at info@edhesive.com today.