

From Theology to Technology

JSerra Catholic School Teacher Builds Brand New Computer Science Program

Carmen Lagalante Was Surprised When Students Nominated Her To Start Teaching Computer Science. Through Her Hard Work, She Was Able To Build a Robust and Thriving CS Program.

Have you ever been voluntold that you will be teaching a subject you are completely unfamiliar with? Twelve years ago, Carmen Lagalante was informed by administrators at JSerra Catholic School she would be in charge of teaching an AP CSA class not currently on the schedule. With a background in Theology, Carmen had no prior experience with computer science and had to figure out how she was going to teach this new class.

Carmen was considered the best option to teach a computer science class because she was already using technology in her Theology classes. JSerra has a “bring your own device” policy in place which allows students to bring their own laptops from home to help support their learning in the classroom. Taking advantage of students having access to computers, Carmen began to utilize various platforms with her students such as Blogger, Evernote, Youtube, and Podcasts to help elevate their learning. Carmen’s students saw her as a tech-savvy teacher who would be the perfect person to teach AP CSA.

But for Carmen, the correlation wasn’t as direct. “Knowing how to use tech has nothing to do with knowing how to code!” she said. Luckily for her students, Carmen’s mom enrolled her in a coding academy when she was in 4th grade. She took classes until high school, making her familiar enough with basic coding structures such as loops and conditionals to take on the class. In preparation for teaching the AP CSA course to JSerra students in the fall, Carmen spent the summer learning JavaScript and attending an AP conference.



Carmen describes her first year teaching AP CSA to her students as “brutal.” She had to spend lots of extra time prepping for class, and there were many days where she would stay late after school. Carmen taught from a textbook and created her own PowerPoints to supplement the written material. For 3 years, Carmen proceeded to teach AP CSA, Introduction to Computer Science, and her Theology classes simultaneously. It was a lot!

Carmen didn't know at the time, but help was on the way. One day, she received a packet presentation from a parent of a prospective student. This presentation was on CodeHS, a platform she had not previously heard of. Carmen knew she was in need of some additional help for teaching computer science, so she decided to do some research of her own.

"I checked out the website and I loved it because it had more than just lessons. It had a gradebook, syllabi, lesson plans, and other tools needed for a high school classroom. At that time, I had previously checked out other sites, but none offered those key tools."

Since JSerra's discovery of CodeHS, Carmen has since transitioned into her current role, Educational Technology Specialist. Her computer science classes have grown from reaching 6-8 students every year to reaching 30-40! As JSerra's Educational Technology Specialist, Carmen has her own office, but not her own designated classroom. Instead, other teachers around the school donate their classroom space to her during her CS classes. This is made possible in part due to the structure and setup of CodeHS. Carmen notes that one of the benefits of CodeHS is that all of the curriculum is online. All she needs is her laptop and she can teach anywhere!

Carmen is able to use CodeHS to teach students a variety of different programming languages and courses all within one classroom. Carmen notes that "the flexibility in CodeHS allows students to work at their own pace." Students log into CodeHS, watch a video tutorial on the lesson of the day, check out sample programs, and then start working through different exercises and programming challenges. Because of the self-paced design of CodeHS, JSerra is able to offer students a variety of programming courses. Carmen has students who are taking Computing Ideas, Intro to Programming, AP CSA, Web Design, Cybersecurity and Data Structures. If you visit Carmen's classroom on any given day, you will see students working on a number of courses all within one classroom.

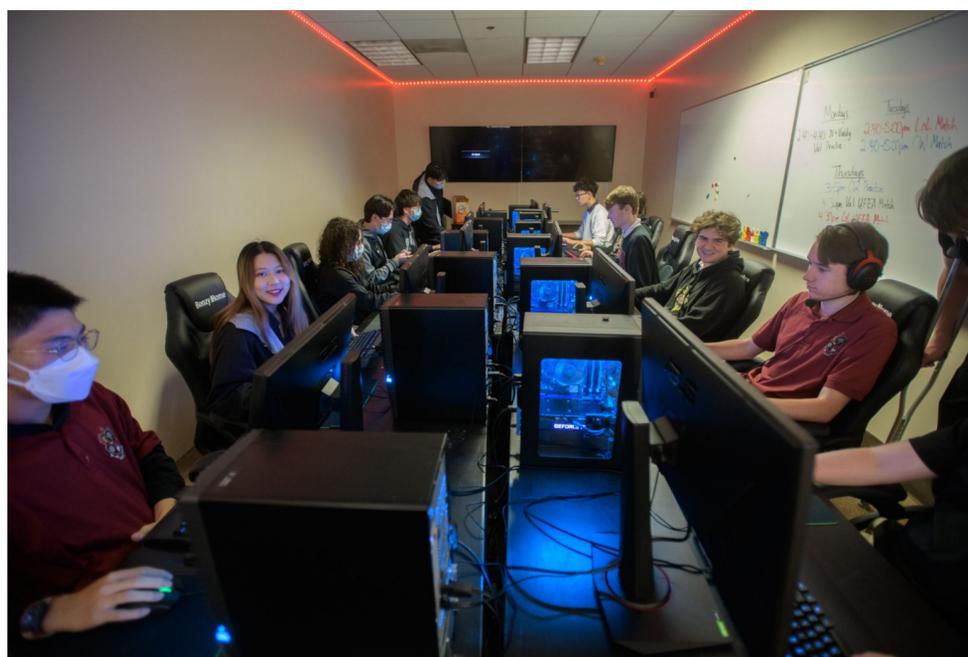
Several students have loved programming so much they were able to finish course work early and work on their own passion projects. When Leon Han, a JSerra sophomore, finished all of the content of the Intro to Programming class early, he decided to turn his attention towards helping others in his class and was able to find time to make his own video game. Henry Heit, another one of Carmen's students, used his extra time to create a Star Wars themed virtual reality experience using A-Frame. For Noah Anderson, it was all about using his extra time to create a digital circular chess board called "N-Man Chess" so all of his friends could play chess together.



The success of JSerra's Computer Science program is definitely not lost on the school's Principal, Eric Stroupe. "We are seeing students choose CS as a focus/major in college after exposure to courses in high school. When students are able to engage with the course material, they tend to enjoy it and it becomes a career option that

may not have otherwise existed prior to taking the course." This has been the case for seniors Dane Persek and Austin Persek. Computing Ideas is the first computer science course either student has taken and after enjoying it so much, they're both planning on majoring in CS.

As their computer science department continues to take off, JSerra has expanded their CS offerings to include robotics, 3D printing, and an E-Sports lab where students can participate in video game competitions. It's all part of the plan to help students see they can have successful futures in computer science. Principal Stroupe would express his hopes for the future of JSerra's CS program as the following: "I hope that students are exposed to computer science as a potential career path, as I know there are many careers related to knowledge of computer science. I also hope students embrace the field as a way to make society better through more efficient use of resources."



CodeHS is excited to continue to support JSerra's Computer Science program growth and can't wait to see what their amazing students accomplish!