

New and Emerging Sector

Robotics & Programming Pathway



Students in the Software and Systems Development pathway prepare for careers related to computer science that involve the design, development, implementation, maintenance and management of systems that rely on software programs to satisfy the operational needs of modern business organizations. This pathway focuses on computer programming for solving applied problems in science, technology, engineering and math (STEM), such as solving problems in algebra and robotics.

EGUSD ACADEMIES & PATHWAYS

- Cosumnes Oaks High School, Computer Programming and Robotics

CAREER OPPORTUNITIES

- Computer Programmer
- Software Developer/Applications
- Information Security Analyst
- Web Developer
- E-Business/E-Commerce Specialist



CONTACT INFORMATION



Cosumnes Oaks High School

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SAMPLE PROGRAM OF STUDY

The sample program of study outlined below lists academy-specific courses and does not include the full list of graduation requirements in writing, math, VAPA, WL, etc. These courses are subject to change based upon industry trends.

Career-Themed Course(s)

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| 9th-10th Grade | Exploring Computer Science: This course explores programming taught on a computer in which the language will be applied to the areas of math, science, business, social studies, economics and ecology. In this course, students will learn to code small robots to complete challenges. |
| 10th-11th Grade | Computing with Robotics: The first half of this concentrator course, students will learn about Arduino and electronics. The second half of the course will be using the electronics on a Parallax Shield Bot (small robot). Students will learn how to program the various components of the robot to make it run autonomously. |
| 11th-12th Grade | Computer Programming for Solving Applied Problems: In this capstone course, students will use VEX robots and Robot C to learn about motor control, gear ratios, torque, friction, sensors, timing, program loops, logic gates, decision-making, timing sequences, propulsion systems and binary number systems. Considerable attention is devoted to program design, task decomposition, testing, debugging and software reuse. |