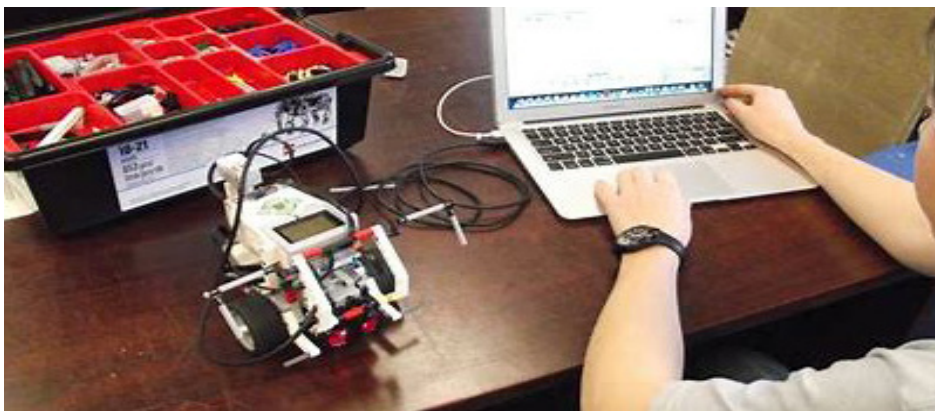




Robotics and Programming Pathway

COSUMNES OAKS HIGH SCHOOL

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.



PATHWAY BENEFITS

- Specialized courses
- Advanced Technology
- Guest speakers
- Industry-related field trips
- Work-Based Learning Opportunities

FUTURE CAREER OPTIONS

High School Diploma

- Help Desk Specialist
- Production Technician
- Web Page Developer
- Computer Operator
- Word Processing Operator

AA, AS Degree or Certificate

- Computer Support Specialist
- LAN Support Technician
- Software/Hardware Installer
- Data Communications
- Computer Graphic Artist
- Desktop Publisher
- Multimedia Specialist
- Web Designer
- Webmaster
- Database Administrator
- Technical Writer

BS, BA or Post-Graduate Degree

- Computer Programmers
- Computer Security Specialist
- Database Administrators
- Software Engineers
- Information Systems Architect
- Tower Project Coordinator
- Systems Engineer
- Graphic Designer
- Multimedia Artist/Animator
- Web Architect

OUR BUSINESS PARTNERS

- Apple Volt Program
- Folsom Lake College
- Google
- MMA Incorporated
- Soroptimist International of Elk Grove

SAMPLE CAREER-THEMED COURSES

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)

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.

CONTACT INFORMATION



**Cosumnes Oaks High School
Robotics & Programming Pathway**

Tel: 916.686.7670

Web: cohs.egusd.net

Web: www.EGUSDexplore.com

ACADEMY VS. NON-ACADEMY STUDENT DATA

