INFORMATION COMMUNICATION TECHNOLOGY SECTOR

Computer Science Pathway (172)

Offered at Canyon, El Modena, Orange, Richland, & Villa Park High School

Vocational Education Level	Course Name	Course Number	Articulations	Voc. Ed Level Label
01	Exploring Computer Science **(UC-G)**	O651 *		Introductory
02	Foundations of Technology and Engineering **(UC-G)**	O604 *		Concentrator
02	Internet Web Design	O749		Concentrator
03	AP Computer Science Principles **(UC-G)**	O630 *		Capstone
03	Technology Certification for Business	O630	CCC, GWC	Capstone
03	Professional Internship	O745		Capstone

CTE/ICT

CTE/INFORMATION COMMUNICATION TECHNOLOGY SECTOR

EXPLORING COMPUTER SCIENCE

O651*

This is the first course in the Information and Computer Technology (ICT) Sector Pathways. Students are introduced to the

foundations of Computer Science using an inquiry-based, hands-on approach to understand and solving real world computing problems. Instruction includes the areas of Human Computer Interaction, Problem Solving, Web Design, Programming, Data Analysis and Robotics. Emphasis is placed on the creative, collaborative, interdisciplinary and problem-solving nature of computing. Upon completing the course, students will be prepared to pursue more advanced courses in the pathway, and to further their exploration of college and careers in the ICT Industry. *Exploring Computer Science is UC approved as a "G" Elective. NOTE: This course follows the National Course outline developed by UCLA and LAUSD.*

FOUNDATIONS OF TECHNOLOGY AND ENGINEERING

O605 *

is a one-year course designed to expose high school students to a wide range of science, engineering, and technology content. The integrated units of study provide a concept driven mastery system of learning where students are engaged in hands-on projects. The course is part of the Paxton Patterson educational system. *Foundations of Technology and Engineering is UC approved as a "G" Elective*

INTERNET WEB DESIGN

O749

This course is designed to provide students with classroom and laboratory experience in current and emerging networking and web design technology that will empower them to enter employment and/or further education and training in the computer networking field. The processes of designing and maintaining a Web site will be covered as the student develops personal web pages.

AP COMPUTER SCIENCE PRINCIPLES

O932 *

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science. *AP Computer Science Principles is UC approved as "G" Elective.*
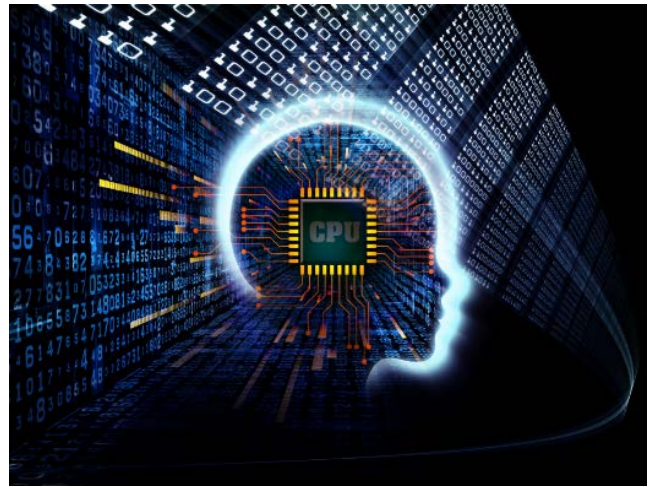
TECHNOLOGY CERTIFICATION FOR BUSINESS

O630

In this course, students will develop expertise in Microsoft Office applications. Students learn the different tasks involved in the daily operation of a business, and use the appropriate software and systems to complete these tasks. Communication and Technology Certification for Business provides students with opportunities to develop 21st century skills and as well as equips them to pursue post-secondary education and advancement in the field. Communication and Technology Certification for Business concentrates on Microsoft Office PowerPoint, Excel, and Word, with an optional module of Microsoft Access. Instruction includes those areas and skills included on the Microsoft Office Specialist (MOS) Certification exam.

PROFESSIONAL INTERNSHIP

O745

This practicum and internship course allows the students to apply academic and career readiness skills in a workplace environment. Instruction will combine standards-based classroom instruction with extended on-site industry experience. Students will learn all aspects of Professionalism, and apply 21st Century Skills of Communication, Collaboration, Critical Thinking, Creativity and Problem Solving in a real world setting. Interested students can prepare to take the WorkKeys National Career Readiness Certificate.

Canyon High School Pathways

http://www.canyonhighschool.org/academics/CTE

El Modena High School Pathways

http://www.elmodenahs.org/apps/pages/index.jsp?uREC_ID=382265&type=d&pREC_ID=879439

Orange High School Pathways

http://www.orangeusd.org/ohs/docs/pathwaysflyer.pdf

Villa Park High School Pathways

http://www.villaparkhigh.org/apps/pages/index.jsp?uREC_ID=419726&type=d&pREC_ID=917448