COMPUTER SCIENCE DEPARTMENT
Senior High School


Arts & Communications


Business, Management Marketing & Technology


Health Science


Engineering/Manufacturing & Industrial Technology


Human Services


Natural Resources & Agriscience

VPAA – Meets Visual, Performing & Applied Arts Requirement
OLE – Meets Online Learning Experience Requirement
SMR – Senior Math Related
CP – CTE Completer
C – Commitment Form
21F – Course Available through Section 21F: Expanded Virtual Learning
*CAREER ZONES - Broad groupings of careers that share similar characteristics and whose employment requirements call for many common interests, strengths, and competencies.

INTRODUCTION TO COMPUTER SCIENCE – E250 9 1.0 credit

The Intro to Computer Science curriculum is based on the University of California at Berkeley CS 10 course, "Beauty and Joy of Computing" (BJC). First semester, students will use the program Snap!, an approachable visual block-based programming language. Second semester, student will transition to text-based programming using Python language.

**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Engineering, Manufacturing & Industrial Technology*

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPALS (VPAA/SMR/C) (21F) - E190 9,10,11,12 1.0 credit

Advanced Placement 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. Advanced Placement Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving.

**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Engineering, Manufacturing & Industrial Technology*

COMPUTER SCIENCE I (OLE/GR/MMC/SMR) (21F) – E200 10, 11, 12 0.5 credit

Computer Science I is an introductory course for students interested in learning the structure and logic of a formal programming language. The course is especially intended for students who may enroll in computer science courses in college. The Computer Science I course will emphasize program structure and design while developing standard programming algorithms and conventional procedures. The topics of study will include program development, functions and procedures, data structures, sorting routines with respect to efficiency, and text files and formatted output.
**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Engineering, Manufacturing & Industrial Technology*

COMPUTER SCIENCE II (GR/MMC/SMR) – E210 10, 11, 12 0.5 credit

PREREQUISITE Computer Science I

Computer Science II is a continuation of the one-semester Computer Science I course. The course is designed for college-bound students who will major in a scientific or technical discipline that requires computer involvement. The course emphasizes computer science algorithms and their implementation using static and dynamic data structures. Students will study arrays in further detail. The course also will include an introduction to stacks, queues, linked lists, and binary trees. Emphasis will be on computer science topics using formal-structured program design.
**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Engineering, Manufacturing & Industrial Technology*

CYBERSECURITY (VPAA/SMR/CP) (21F) - V546 11,12 1.0 credit

Cybersecurity focuses on the evolving technological environment with an emphasis on securing personal, organizational, and national information. The course explores the broad topic of cybersecurity in a way that personally matters to an individual. Students will learn how to protect their personal data and privacy online and in social media, and why more and more IT jobs require cybersecurity awareness and understanding. Students will investigate the high-skills, high-wage, and in demand career opportunities in the vast field of cybersecurity.
**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Human Services, Natural Resources and Agriscience*

ADVANCED PLACEMENT COMPUTER SCIENCE A (OLE/GR/MMC/SMR/C) (21F) – E215 10, 11, 12 1.0 credit

PREREQUISITE: English and Algebra

Advanced Placement Computer Science A is an introduction to Object-Oriented computer programming using a high-level programming language such as Java. The course will emphasize program structure and design while developing standard programming algorithms and conventional procedures. Classes, member functions, inheritance, polymorphism, operator overloading, sorting routines, and the Advanced Placement Case study will be covered in this course.
**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology, Engineering, Manufacturing & Industrial Technology*

WEB PAGE DEVELOPMENT I (VPAA/OLE/SMR) – V250 10, 11, 12 1.0 credit

This is a hands-on, project-oriented class. Students will have the opportunity to explore the power of internet communications, create their own websites using a variety of tools, and earn the industry-recognized Adobe Dreamweaver CS6 certification. Students will develop real world technological skills while engaging in problem solving and higher-level thinking. The course will begin with basic web concepts and then move into coding such as HTML and CSS. Once basic code is mastered, students will move into Adobe CS6 and begin developing advanced web components and sites using Dreamweaver and Photoshop. Website Development students may qualify for college credit through an articulation agreement.
**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology*

WEB PAGE DEVELOPMENT II (VPAA/OLE/SMR/CP) – V260 11, 12 1.0 credit

PREREQUISITE: Web Page Development I

This project-based course will provide a comprehensive look at the business side of website design, while preparing students for the industry-recognized Adobe Photoshop CS6 certifications. Students will utilize the technical skills acquired in Website Development I to improve their design skills and creativity. Additional advanced topics in CSS, Dreamweaver, Flash, Fireworks and Photoshop will be explored. Emphasis will be placed on meeting customer needs, assessing end-user needs, effective design techniques, search engine strategies, and e-commerce strategies. In addition to working on the school website, students will work in web design teams to develop websites for school stakeholders and/or community businesses. Website Development II students may qualify for college credit through an articulation agreement.

**Course content may address skills pertaining to these potential Career Zones: Business, Management, Marketing, and Technology*