

Programming and Software Development CTE Program

Information Technology

Course Code: TBD

1 Credit

Prerequisite: None

Course Fee: None

Information Technology Fundamentals is a one-credit course that introduces students to the knowledge base and technical skills for information technology careers. Students study the nature of business and demonstrate knowledge of the functions of information systems in business. Emphasis is placed on maintaining a safe working environment and on building interpersonal skills needed for working in the information technology environment. Students demonstrate appropriate knowledge and behaviors regarding legal responsibilities of information technology professionals. They explore a variety of information technology career opportunities and develop a personal career plan to meet career goals and objectives.

Intro to Python Programming

Course Code: TBD

1 Credit

Prerequisite: None

Course Fee: None

Introduction to Python is a one-credit introductory course that focuses on Python language basics such as data types, variables, input, functions, operators, conditional statements, loops, and incrementing. Python data structures such as strings, lists, and range sequences, as well as methods for working with these structures are introduced. Students will use the Python language to develop sustainable code. The Python language will be introduced in a blended learning environment which includes video content, practice labs, and coding projects.

Exploring Computer Science

Course Code: TBD

1 Credit

Prerequisite: Algebra I

Course Fee: None

This introductory high school Computer Science course is for students in grades 9-10 focused on foundational Computer Science concepts and computational practices. Students will be introduced to the breadth of the field of Computer Science through an exploration of engaging and accessible topics. The course is designed to focus on the conceptual ideas of computing and help students understand why certain tools or languages might be utilized to solve particular problems. The goal of Exploring Computer Science is to develop in students the computational practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. Students will also be introduced to topics such as interface design, limits of computers, and social and ethical issues.

AP Computer Science Principles	
Course Code: TBD	1 Credit
Prerequisite: Geometry	Exam Fee: \$100
<p>College-level advanced course following the curriculum established by the College Board Advanced Placement (AP) program for computer science; focuses on the innovative and multidisciplinary aspects of computing as well as the computational thinking practices that help students see how computing is relevant to many areas of their everyday lives; introduces students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. The AP Computer Science Exam is required and will be administered in May.</p>	

AP Computer Science A	
Course Code: TBD	1 Credit
Prerequisite: Algebra II w/ Trig	Exam Fee: \$100
<p>AP Computer Science A is equivalent to a first-semester, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. The AP Computer Science A Exam is required and will be administered in May.</p>	