OPENING DOORS TO THE FUTURE

STEM Endorsement
Programming and Software Development
CTE Pathway

Grade	Language Arts	Math	Science	Social Studies	Required CTE Courses	Potential Certification Opportunities
9th	English I	Algebra I	Biology	World History	***Fundamentals of Computer Science**	
10th	English II	Geometry	Chemistry		***AP Computer Science 1**	
11th	English III	Approved 3rd Year Math	Approved 3rd Year Science	U.S. History	***Computer Science 2**	
12th	English IV	Approved 4th Year Math	Approved 4th Year Science	Government and Economics	***Computer Science 3**	

Sample Career Opportunities	High School	On the Job Training	Certificate	Associate's Degree	Bachelor's Degree	Advanced College Degree	Average Annual Salary	Possible Majors
Computer Network Architect					X	X	$111,633	*Computer Software Engineer *Computer Science *Information Science/Studies
Software Developer, Systems Software					X		$103,344	
IT Manager					X	X	$139,000	
Software Engineer					X		$84,870	

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Fundamentals of Computer Science   GHS Section 4105
TSDS PEIMS Code: 03580140   Available as a CTE Elective
Grade Placement: 10–12   Credit: 1   Prerequisite: None.

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.

Computer Science 1   GHS Section _____
TSDS PEIMS Code: 13027600   Available as a CTE Elective
Grade Placement: 10–12   Credit: 1   Prerequisite: None.

Recommended Prerequisites: Principles of Information Technology and Algebra l. In Computer Programming I, students will acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies.

Computer Science 2   GHS Section _____
TSDS PEIMS Code: 13027700   Designated for Pathway Students
Grade Placement: 11–12   Credit: 1   Prerequisite: None.

Recommended Prerequisites: Principles of Information Technology and Computer Programming l.
In Computer Programming II, students will expand their knowledge and skills in structured programming techniques and concepts by addressing more complex problems and developing comprehensive programming solutions. Students will analyze the social responsibility of business and industry regarding the significant issues relating to environment, ethics, health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies.

_____   GHS Section ____
TSDS PEIMS Code: _____   (First Time Taken)   Designated for Pathway Students
                     _____   (Second Time Taken)
Grade Placement: 11–12   Credit: 2   Prerequisite: None.
Recommended Prerequisite: A minimum of one credit from the courses in the _____.
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