
Coal City Unit District #1
AP Computer Science Principles
Career and Technical Curriculum

CTE.APCS:1	Students will demonstrate knowledge of computing systems. (CSTA 3B-CS-01-02)	
	CTE.APCS:1-1	Identify the roles of operating system software.
	CTE.APCS:1-2	Demonstrate ways computing systems implement logic, input, and output through hardware components.
CTE.APCS:2	Students will demonstrate knowledge of networks and the Internet. (CSTA 3B-NI-03-04)	
	CTE.APCS:2-1	Identify issues that impact network functionality including bandwidth, load, delay, and topology.
	CTE.APCS:2-2	Compare ways software developers protect devices and information from unauthorized access.
	CTE.APCS:2-3	Explain the abstractions in the Internet and how the Internet functions. [P3]
	CTE.APCS:2-4	Explain characteristics of the Internet and the systems built on it. [P5]
	CTE.APCS:2-5	Explain how the characteristics of the Internet influence the systems built on it. [P4]
	CTE.APCS:2-6	Identify existing cybersecurity concerns and potential options to address these issues with the Internet and the systems built on it. [P1]
CTE.APCS:3	Students will demonstrate knowledge of data and analysis. (CSTA 3B-DA-05-07)	
	CTE.APCS:3-1	Explain how to select data collection tools and techniques to generate data sets that support a claim or communicate information.
	CTE.APCS:3-2	Demonstrate how to use data analysis tools and techniques to identify patterns in data representing complex systems.
	CTE.APCS:3-3	Evaluate the ability of models and simulations to test and support the refinement of hypotheses.

CTE.APCS:4 Students will demonstrate knowledge of algorithms and programming. (CSTA 3B-AP-09-24)

CTE.APCS:4-1	Identify programming commands, variables, and loops.
CTE.APCS:4-2	Demonstrate how to implement the location of an object on the canvas.
CTE.APCS:4-3	Identify classic algorithms to solve computational problems.
CTE.APCS:4-4	Evaluate algorithms in terms of their efficiency, correctness, and clarity.
CTE.APCS:4-5	Compare and contrast fundamental data structures and their uses.
CTE.APCS:4-6	Illustrate the flow of execution of a recursive algorithm.
CTE.APCS:4-7	Construct solutions to problems using student-created components, such as procedures, modules and/or objects.
CTE.APCS:4-8	Analyze a large-scale computational problem.
CTE.APCS:4-9	Demonstrate code reuse by creating programming solutions using libraries and APIs.
CTE.APCS:4-10	Explain security issues that might lead to compromised computer programs.
CTE.APCS:4-11	Develop programs for broad audiences using a software life cycle process or for multiple computing platforms.
CTE.APCS:4-12	Modify an existing program to add functionality and discuss intended and unintended implications.
CTE.APCS:4-13	Evaluate key qualities of a program through a process such as code review.

CTE.APCS:5 Students will demonstrate knowledge of the impacts of computing. (CSTA 3B-IC-25-28)

CTE.APCS:5-1	Predict the evolution of computational innovations that have revolutionized aspects of our culture.
CTE.APCS:5-2	Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society.
CTE.APCS:5-3	Debate laws and regulations that impact the development and use of software.
CTE.APCS:5-4	Evaluate computational artifacts to maximize their beneficial effects and minimize harmful effects in a global society.

CTE.APCS:6**Students will demonstrate knowledge of web development. (CSTA 3B-WW-25-28)**

CTE.APCS:6-1	Define terminology related to html and css.
CTE.APCS:6-2	Identify html tags and css tags used within a website.
CTE.APCS:6-3	Critique a website for errors.
CTE.APCS:6-4	Apply a creative development process when creating computational artifacts.
CTE.APCS:6-5	Create a computational artifact for creative expression.
CTE.APCS:6-6	Use computing tools and techniques for creative expression.
CTE.APCS:6-7	Extract information from data to discover and explain connections or trends.
CTE.APCS:6-8	Interpret a program for creative expression, to satisfy personal curiosity, or to create new knowledge.
CTE.APCS:6-9	Identify the abstractions in the Internet and how the Internet functions.
CTE.APCS:6-10	Explain how computing innovations affect communication, interaction, and cognition.

CTE.APCS:7**Students will demonstrate knowledge of javascript. (CSTA 3B-JS-25-28)**

CTE.APCS:7-1	Compare and contrast JavaScript with Karel.
CTE.APCS:7-2	Identify the abstractions Karel provides over JavaScript.
CTE.APCS:7-3	Describe the importance of data structures and styles.
CTE.APCS:7-4	Demonstrate knowledge of JavaScript by writing a graphical program that tells a story.