

Computer Science Principles Pacing Guide

Instructor: Felicia Clarke

MAJOR UNITS	MAJOR GOALS	TIME ESTIMATE	EVALUATION STRATEGIES	STANDARDS
Unit 1 - FBLA	<ul style="list-style-type: none"> Goals, mission and objectives of FBLA Competitive events related to FBLA 	5 Days	Vocabulary Quiz	IT-CSP-9: Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.
Unit 2 - Employability	<ul style="list-style-type: none"> Time Management Problem-Solving 	10 Days	Soft Skills/ Employability	IT-CSP-1: Demonstrate employability skills required by business and industry.
Unit 3 – Digital Information	<ul style="list-style-type: none"> How binary sequences can be used to represent all digital data Digital data representation How binary data is processed 	15 Days	Skilled Based Assessment	IT-CSP-3: Apply abstractions in digital data to explain how bits are grouped to represent higher-level abstractions such as numbers and characters.
Unit 4 – The Internet	<ul style="list-style-type: none"> How the Internet functions Characteristics of the Internet Cybersecurity with the Internet 	15 days	Skilled Based Assessment	IT-CSP-7: Gain insight into the operation of the Internet, study characteristics of the Internet and systems built upon it, and analyze important concerns, such as cybersecurity.
Unit 5 – Intro to App Design	<ul style="list-style-type: none"> Develop an artifact that represents multiple perspectives Develop a program for creative expression 	15 days	Team Project	IT-CSP-2: Create digital artifacts that foster creative expression including programs, digital music, videos, images, documents, and combinations of these such as infographics, presentations, and web pages.
Unit 6 – Variables, Conditionals and Functions	<ul style="list-style-type: none"> Evaluate expressions that include numbers, strings and arithmetic operators. Evaluate expressions that include Boolean values, comparison operators, and logical operators. Trace the flow of execution in programs that declare and call functions. 	20 days	Skilled Based Assessment	IT-CSP-6: Create programs that translate human intention into computational artifacts including music, images, visualizations, and more while exploring the concepts, techniques and development used in writing programs
Unit 7 – Lists, Loops and Traversals	<ul style="list-style-type: none"> Identify common programming patterns using lists. Trace a simple program with a loop. Understand how to use a loop to traverse a list. 	20 days	Skilled Based Assessment	IT-CSP-5: Develop, express, implement, and analyze algorithms analytically and empirically.
Unit 8 – Algorithms	<ul style="list-style-type: none"> Develop an algorithm Building blocks of algorithms: sequencing, selection, iteration, and recursion 	15 days	Skilled Based Assessment	IT-CSP-5: Develop, express, implement, and analyze algorithms analytically and empirically.
Unit 9 – Parameters, Returns and Libraries	<ul style="list-style-type: none"> Modify programs that use functions with parameters and return. Setup a parameter in a function. Identify the use of a library within a program. 	20 days	Skilled Based Assessment	IT-CSP-3: Apply abstractions in digital data to explain how bits are grouped to represent higher-level abstractions such as numbers and characters.

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Unit 10 - Data	<ul style="list-style-type: none"> • Explain the usefulness of metadata. • Explain the impact of open data on scientific research and discovery. • Define and explain the impacts of crowdsourcing, crowdfunding and citizen science. 	15 days	Skilled Based Assessment	IT-CSP-4: Design and create computer programs to process and extract information to gain insight and knowledge.
Unit 11 – Cybersecurity and Global Impacts	<ul style="list-style-type: none"> • Define Personally Identifiable Information (PII) • Explain the risks to privacy that arise from using modern computing technology. • Identify commons security risks: phishing, keylogging and rogue access points 	20 days	Skilled Based Assessment	IT-CSP-7: Gain insight into the operation of the Internet, study characteristics of the Internet and systems built upon it, and analyze important concerns, such as cybersecurity.