

Course Overview	AP Computer Science Principles introduces students to the breadth of the field of computer science. In this course, students will learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They will incorporate abstraction into programs and use data to discover new knowledge. Students will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.
Course Standards	AP Computer Science Principles Course and Exam Description
Instructional Materials	Beauty and Joy of Computing Curriculum AP Classroom

Scope & Sequence

Units & Instructional Days	Assessments & Scanning Deadlines	Standards
Unit 1: Introduction to Programming (16 Days)	TX_CTE_APComputer SciencePrinciples_F2 6_UE1 Scanning Deadline: October 1 st 2026	<p>CRD-1.A - Explain how computing innovations are improved through collaboration.</p> <p>CRD-1.B - Explain how computing innovations are developed by groups of people.</p> <p>CRD-1.C - Demonstrate effective interpersonal skills during collaboration.</p> <p>CRD-2.A - Describe the purpose of a computing innovation.</p> <p>CRD-2.B - Explain how a program or code segment functions.</p> <p>CRD-2.C - Identify input(s) to a program.</p> <p>CRD-2.D - Identify output(s) produced by a program.</p> <p>CRD-2.E - Develop a program using a development process.</p> <p>CRD-2.F - Design a program and its user interface.</p> <p>CRD-2.G - Describe the purpose of a code segment or program by writing documentation.</p> <p>CRD-2.H - Acknowledge code segments used from other sources.</p> <p>CRD-2.I - For errors in an algorithm or program: a. Identify the error. b. Correct the error.</p> <p>CRD-2.J - Identify inputs and corresponding expected outputs or behaviors that can be used to check the correctness of an algorithm or program.</p> <p>AAP-2.A - Express an algorithm that uses sequencing without using a programming language.</p> <p>AAP-2.B - Represent a step-by-step algorithmic process using sequential code statements.</p> <p>AAP-2.C - Evaluate expressions that use arithmetic operators.</p> <p>AAP-2.D - Evaluate expressions that manipulate strings.</p> <p>AAP-2.J - Express an algorithm that uses iteration without using a programming language.</p> <p>AAP-2.K - For iteration: a. Write iteration statements. b. Determine the result or side effect of iteration statements.</p> <p>AAP-3.A - For procedure calls: a. Write statements to call procedures. b. Determine the result or effect of a procedure call.</p> <p>AAP-3.B - Explain how the use of procedural abstraction manages complexity in a program.</p> <p>AAP-3.C - Develop procedural abstractions to manage complexity in a program by writing procedures.</p> <p>AAP-3.E - For generating random values: a. Write expressions to generate possible values. b. Evaluate expressions to determine the possible results.</p>

Unit 2: Conditionals and Abstraction (17 Days)	TX_CTE_APComputerSciencePrinciples_F26_U E2 Scanning Deadline: October 29 th 2026	AAP-1.A - Represent a value with a variable. AAP-1.B - Determine the value of a variable as a result of an assignment. AAP-2.E - For relationships between two variables, expressions, or values: a. Write expressions using relational operators. b. Evaluate expressions that use relational operators. AAP-2.F - For relationships between Boolean values: a. Write expressions using logical operators. b. Evaluate expressions that use logic operators. AAP-2.G - Express an algorithm that uses selection without using a programming language. AAP-2.H - For selection: a. Write conditional statements. b. Determine the result of conditional statements. AAP-2.I - For nested selection: a. Write nested conditional statements. b. Determine the result of nested conditional statements. AAP-3.D - Select appropriate libraries or existing code segments to use in creating new programs.
Unit 3: Lists (12 Days)	TX_CTE_APComputerSciencePrinciples_F26_U E3 Scanning Deadline: November 19 th 2026	AAP-1.C - Represent a list or string using a variable. AAP-1.D - For data abstraction: a. Develop data abstraction using lists to store multiple elements. b. Explain how the use of data abstraction manages complexity in program code. AAP-2.N - For list operations: a. Write expressions that use list indexing and list procedures. b. Evaluate expressions that use list indexing and list procedures. AAP-2.O - For algorithms involving elements of a list: a. Write iteration statements to traverse a list. b. Determine the result of an algorithm that includes list traversals.
AP Create Practice Task (10 Days)		
Semester Exam Window: TBD Scanning Deadline: TBD		
Unit 5: Algorithms (15 Days)	TX_CTE_APComputerSciencePrinciples_S27_U E5 Scanning Deadline: January 28 th 2027	DAT-2.A - Describe what information can be extracted from data. DAT-2.B - Describe what information can be extracted from metadata. DAT-2.C - Identify the challenges associated with processing data. DAT-2.D - Extract information from data using a program. DAT-2.E - Explain how programs can be used to gain insight and knowledge from data. AAP-2.L - Compare multiple algorithms to determine if they yield the same side effect or result. AAP-2.M - For algorithms: a. Create algorithms. b. Combine and modify existing algorithms. AAP-2.P - For binary search algorithms: a. Determine the number of iterations required to find a value in a data set. b. Explain the requirements necessary to complete a binary search. AAP-3.F - For simulations: a. Explain how computers can be used to represent real-world phenomena or outcomes. b. Compare simulations with real-world contexts. AAP-4.A - For determining the efficiency of an algorithm: a. Explain the difference between algorithms that run in reasonable time and those that do not. b. Identify situations where a heuristic solution may be more appropriate. AAP-4.B - Explain the existence of undecidable problems in computer science.
AP Create Task (9 Days Prep + 9 Days Project Time)		
Unit 4: How the Internet Works (18 Days)	TX_CTE_APComputerSciencePrinciples_S27_U E4 Scanning Deadline: April 15 th 2027	CSN-1.A - Explain how computing devices work together in a network. CSN-1.B - Explain how the Internet works. CSN-1.C - Explain how data are sent through the Internet via packets. CSN-1.D - Describe the differences between the Internet and the World Wide Web. CSN-1.E - For fault-tolerant systems, like the Internet: a. Describe the benefits of fault tolerance. b. Explain how a given system is fault-tolerant. c. Identify vulnerabilities to failure in a system. CSN-2.A - For sequential, parallel, and distributed computing: a. Compare problem solutions. b. Determine the efficiency of solutions. CSN-2.B - Describe benefits and challenges of parallel and distributed computing. IOC-1.A - Explain how an effect of a computing innovation can be both beneficial and harmful.

		IOC-1.B - Explain how a computing innovation can have an impact beyond its intended purpose. IOC-1.C - Describe issues that contribute to the digital divide. IOC-1.D - Explain how bias exists in computing innovations. IOC-1.E - Explain how people participate in problem-solving processes at scale. IOC-1.F - Explain how the use of computing can raise legal and ethical concerns. IOC-2.A - Describe the risks to privacy from collecting and storing personal data on a computer system. IOC-2.B - Explain how computing resources can be protected and can be misused.
Mock Exam Window: TBD Scanning Deadline: TBD		
AP Exam Practice and Review (17 Days)		
AP Exam: TBD		

TEKS Alignment

Instruction in this course is aligned to the Texas Essential Knowledge and Skills (TEKS) as adopted by the State Board of Education and implemented in accordance with Texas Education Code Chapter 28.

Instructional Materials

Beauty and Joy of Computing Curriculum

AP Classroom

Supplemental instructional materials may be used to support instruction. Supplemental materials do not replace board-approved core instructional materials.

Additional information regarding instructional programs, assessments, and parent access to instructional materials is available on the district website.

Instructional Expectations

Instruction is delivered using board-approved instructional materials and aligned to the scope and sequence outlined above. Teachers are expected to ensure all required standards are taught within the course timeframe.

Assessment Overview

Student learning is monitored through formative and summative assessments aligned to course standards. Assessment results are used to inform instruction and student supports. Students participate in required state assessments when applicable.