

Course Overview	AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.
Course Standards	AP Computer Science A Course and Exam Description
Instructional Materials	CodeHS Mocha and Cortado Curriculum AP Classroom

Scope & Sequence

Units & Instructional Days	Assessments & Scanning Deadlines	Standards
Unit 1 – Mocha U1: Introduction to Programming with Karel the Dog (12 Days)	TX_CTE_APComputer ScienceA_F26_UE1 Scanning Deadline: September 17 th 2026	1.8.A Describe the functionality and use of code through comments. 1.9.B Describe how to call methods. 2.3.A Develop code to represent branching logical processes with selection statements. 2.4.A Develop code to represent nested branching logical processes and determine the result of these processes. 2.7.B Develop code for iterative processes using while loops. 2.8.A Develop code for iterative processes using for loops. 2.11.A Develop code to represent nested iterative processes. 3.1.A Represent the design of a program by using natural language or creating diagrams that indicate the classes in the program and the data and procedural abstractions found in each class by including all attributes and behaviors. 3.3.A Develop code to designate access and visibility constraints to classes, data, constructors, and methods.
Unit 2 – Mocha U2: Basic Java (16 Days)	TX_CTE_APComputer ScienceA_F26_UE2 Scanning Deadline: October 15 th 2026	1.2.A Identify the most appropriate data type category for a particular specification. 1.2.B Develop code to declare variables to store numbers and Boolean values. 1.3.A Develop code to generate output and determine the result that would be displayed. 1.3.B Develop code to utilize string literals and determine the result of using string literals. 1.3.C Develop code for arithmetic expressions and determine the result of these expressions. 1.4.A Develop code for assignment statements with expressions and determine the value that is stored in the variable as a result of these statements. 1.5.A Develop code to cast primitive values to different primitive types in arithmetic expressions and determine the value that is produced as a result. 2.2.A Develop code to create boolean expressions with relational operators and determine the result of these expressions. 2.3.A Develop code to represent branching logical processes by using selection statements and determine the result of these processes. 2.4.A Develop code to represent nested branching logical processes and determine the result of these processes. 2.5.A Develop code to represent compound boolean expressions and determine the result of these expressions. 2.6.A Compare equivalent boolean expressions.

		<p>2.6.B Develop code to compare object references using boolean expressions and determine the result of these expressions.</p> <p>2.7.B Develop code to represent iterative processes using while loops and determine the result of these processes.</p> <p>2.8.A Develop code to represent iterative processes using for loops and determine the result of these processes.</p> <p>2.9.A Develop code for standard and original algorithms (without data structures) and determine the results of these algorithms.</p> <p>2.11.A Develop code to represent nested iterative processes and determine the result of these processes.</p>
Unit 3 – Mocha U3: Methods (12 Days)	<p>TX_CTE_APComputerScienceA_F26_UE3</p> <p>Scanning Deadline: November 19th 2026</p>	<p>1.3.A Develop code to generate output and determine the result that would be displayed.</p> <p>1.3.C Develop code for arithmetic expressions and determine the result of these expressions.</p> <p>1.8.A Describe the functionality and use of code through comments.</p> <p>1.9.B Describe how to call methods.</p> <p>1.15.B Develop code to call methods on string objects and determine the result of calling these methods.</p> <p>2.10.A Develop code for standard and original algorithms that involve strings and determine the result of these algorithms.</p>
Unit 4 – Cortado U1: Using Objects and Methods (30 Days)	<p>TX_CTE_APComputerScienceA_F27_UE4</p> <p>Scanning Deadline: January 14th 2027</p>	<p>1.1.A - Represent patterns and algorithms found in everyday life using written language or diagrams.</p> <p>1.1.B - Explain the code compilation and execution process.</p> <p>1.1.C - Identify types of programming errors.</p> <p>1.2.A - Identify the most appropriate data type category for a particular specification.</p> <p>1.2.B - Develop code to declare variables to store numbers and Boolean values.</p> <p>1.3.A - Develop code to generate output and determine the result that would be displayed.</p> <p>1.3.B - Develop code to utilize string literals and determine the result of using string literals.</p> <p>1.3.C - Develop code for arithmetic expressions and determine the result of these expressions.</p> <p>1.4.A - Develop code for assignment statements with expressions and determine the value that is stored in the variable as a result of these statements.</p> <p>1.4.B - Develop code to read input.</p> <p>1.5.A - Develop code to cast primitive values to different primitive types in arithmetic expressions and determine the value that is produced as a result.</p> <p>1.5.B - Describe conditions when an integer expression evaluates to a value out of range.</p> <p>1.5.C - Describe conditions that limit accuracy of expressions.</p> <p>1.6.A - Develop code for assignment statements with compound assignment operators and determine the value that is stored in the variable as a result.</p> <p>1.7.A - Identify the attributes and behaviors of a class found in the libraries contained in an API.</p> <p>1.8.A - Describe the functionality and use of code through comments.</p> <p>1.9.A - Identify the correct method to call based on documentation and method signatures.</p> <p>1.9.B - Describe how to call methods.</p> <p>1.10.A - Develop code to call class methods and determine the result of those calls.</p> <p>1.11.A - Develop code to write expressions that incorporate calls to built-in mathematical libraries and determine the value that is produced as a result.</p> <p>1.12.A - Explain the relationship between a class and an object.</p> <p>1.12.B - Develop code to declare variables to store reference types.</p> <p>1.13.A - Identify, using its signature, the correct constructor being called.</p> <p>1.13.B - Develop code to declare variables of the correct types to hold object references.</p> <p>1.13.C - Develop code to create an object by calling a constructor.</p> <p>1.14.A - Develop code to call instance methods and determine the result of these calls.</p>

		<p>1.15.A - Develop code to create string objects and determine the result of creating and combining strings.</p> <p>1.15.B - Develop code to call methods on string objects and determine the result of calling these methods.</p>
Semester Exam Window: TBD Scanning Deadline: TBD		
Unit 5: - Cortado U2: Selection and Iteration (15 Days)	<p>TX_CTE_APComputerScienceA_S27_UE5</p> <p>Scanning Deadline: February 11th 2027</p>	<p>DAT-2.A - Describe what information can be extracted from data.</p> <p>2.1.A - Represent patterns and algorithms that involve selection and repetition found in everyday life using written language or diagrams.</p> <p>2.2.A - Develop code to create Boolean expressions with relational operators and determine the result of these expressions.</p> <p>2.3.A - Develop code to represent branching logical processes by using selection statements and determine the result of these processes.</p> <p>2.4.A - Develop code to represent nested branching logical processes and determine the result of these processes.</p> <p>2.5.A - Develop code to represent compound Boolean expressions and determine the result of these expressions.</p> <p>2.6.A - Compare equivalent Boolean expressions.</p> <p>2.6.B - Develop code to compare object references using Boolean expressions and determine the result of these expressions.</p> <p>2.7.A - Identify when an iterative process is required to achieve a desired result.</p> <p>2.7.B - Develop code to represent iterative processes using while loops and determine the result of these processes.</p> <p>2.8.A - Develop code to represent iterative processes using for loops and determine the result of these processes.</p> <p>2.9.A - Develop code for standard and original algorithms (without data structures) and determine the result of these algorithms.</p> <p>2.10.A - Develop code for standard and original algorithms that involve strings and determine the result of these algorithms.</p> <p>2.11.A - Develop code to represent nested iterative processes and determine the result of these processes.</p> <p>2.12.A - Calculate statement execution counts and informal run-time comparison of iterative statements.</p>
Unit 6: - Cortado U3: Class Creation (16 Days)	<p>TX_CTE_APComputerScienceA_S27_UE6</p> <p>Scanning Deadline: March 4th 2027</p>	<p>3.1.A - Represent the design of a program by using natural language or creating diagrams that indicate the classes in the program and the data and procedural abstractions found in each class by including all attributes and behaviors.</p> <p>3.2.A - Explain the social and ethical implications of computing systems.</p> <p>3.3.A - Develop code to designate access and visibility constraints to classes, data, constructors, and methods.</p> <p>3.4.A - Develop code to declare instance variables for the attributes to be initialized in the body of the constructors of a class.</p> <p>3.5.A - Develop code to define behaviors of an object through methods written in a class using primitive values and determine the result of calling these methods.</p> <p>3.6.A - Develop code to define behaviors of an object through methods written in a class using object references and determine the result of calling these methods.</p> <p>3.7.A - Develop code to define behaviors of a class through class methods.</p> <p>3.7.B - Develop code to declare the class variables that belong to the class.</p> <p>3.8.A - Explain where variables can be used in the code.</p> <p>3.9.A - Develop code for expressions that are self-referencing and determine the result of these expressions.</p>
Unit 7: - Cortado U4: Data Collections (25 Days)	<p>TX_CTE_APComputerScienceA_S27_UE7</p> <p>Scanning Deadline: April 22th 2027</p>	<p>4.1.A - Explain the risks to privacy from collecting and storing personal data on computer systems.</p> <p>4.1.B - Explain the importance of recognizing data quality and potential issues when using a data set.</p> <p>4.1.C - Identify an appropriate data set to use in order to solve a problem or answer a specific question.</p> <p>4.2.A - Represent patterns and algorithms that involve data sets found in everyday life using written language or diagrams.</p> <p>4.3.A - Develop code used to represent collections of related data using one-dimensional (1D) array objects.</p> <p>4.4.A - Develop code used to traverse the elements in a 1D array and determine the result of these traversals.</p>

		<p>4.5.A - Develop code for standard and original algorithms for a particular context or specification that involves arrays and determine the result of these algorithms.</p> <p>4.6.A - Develop code to read data from a text file.</p> <p>4.7.A - Develop code to use Integer and Double objects from their primitive counterparts and determine the result of using these objects.</p> <p>4.8.A - Develop code for collections of related objects using ArrayList objects and determine the result of calling methods on these objects.</p> <p>4.9.A - Develop code used to traverse the elements of an ArrayList and determine the results of these traversals.</p> <p>4.10.A - Develop code for standard and original algorithms for a particular context or specification that involve ArrayList objects and determine the result of these algorithms.</p> <p>4.11.A - Develop code used to represent collections of related data using two- dimensional (2D) array objects.</p> <p>4.12.A - Develop code used to traverse the elements in a 2D array and determine the result of these traversals.</p> <p>4.13.A - Develop code for standard and original algorithms for a particular context or specification that involves 2D arrays and determine the result of these algorithms.</p> <p>4.14.A - Develop code used for linear search algorithms to search for specific information in a collection and determine the results of executing a search.</p> <p>4.15.A - Determine the result of executing each step of sorting algorithms to sort the elements of a collection.</p> <p>4.16.A - Determine the result of calling recursive methods.</p> <p>4.17.A - Determine the result of executing recursive algorithms that use strings or collections.</p> <p>4.17.B - Determine the result of each iteration of a binary search algorithm used to search for information in a collection.</p> <p>4.17.C - Determine the result of each iteration of the merge sort algorithm when used to sort a collection.</p>
Mock Exam Window: TBD Scanning Deadline: TBD		
AP Exam Practice and Review (10 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.