



WeTeach_AP[®]CSA

A Computer Science Curriculum

for the College Board Computer Science “A” Advanced Placement Test

CSA CED/AP[®]CSA Unit and Topic Alignment Crosswalk

Unit 1 – Primitive Types

CSA Course Exam Description (CED) Topics

1.1	Why Programming? Why Java?
1.2	Variables and Data Types
1.3	Expressions and Assignment Statements
1.4	Compound Assignment Operators
1.5	Casting and Ranges of Variables

WeTeach_AP[®]CSA Topic Lessons

1.1	Why Programming? Why Java?
1.2	Variables and Data Types
1.3	Expressions and Assignment Statements
1.3S	User Input (<i>Supplemental, not required</i>)
1.4	Compound Assignment Operators
1.5	Casting and Ranges of Variables

Unit 2 – Using Objects

2.1	Objects: Instances of Classes
2.2	Creating and Storing Objects (Instantiation)
2.3	Calling a Void Method
2.4	Calling a Void Method with Parameters
2.5	Calling a Non-void Method
2.6	String Objects: Concatenation, Literals...
2.7	String Methods
2.8	Wrapper Classes: Integer and Double
2.9	Using the Math Class

2.1	Objects: Instances of Classes
2.2	Creating and Storing Objects (Instantiation)
2.3-4-5	Calling Methods (<i>combined lesson addressing all three topics</i>)
2.6-7	String Objects and String Methods (<i>combined lesson addressing both topics</i>)
2.8	Wrapper Classes: Integer and Double
2.9	Using the Math Class

Unit 3 – Boolean Expressions and if Statements

3.1	Boolean Expressions
3.2	if Statements and Control Flow
3.3	if-else Statements
3.4	else if Statements
3.5	Compound Boolean Expressions
3.6	Equivalent Boolean Expressions
3.7	Comparing Objects

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3.4	else if Statements
3.5	Compound Boolean Expressions
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3.7	Comparing Objects

Unit 4 – Iteration

4.1	while Loops
4.2	for Loops
4.3	Developing Algorithms Using Strings
4.4	Nested Iteration
4.5	Informal Code Analysis

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4.2	for Loops
4.3	Developing Algorithms Using Strings
4.4	Nested Iteration
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Unit 5 – Writing Classes

CSA Course Exam Description Topics

5.1	Anatomy of a Class
5.2	Constructors
5.3	Documentation with Comments
5.4	Accessor Methods
5.5	Mutator Methods
5.6	Writing Methods
5.7	Static Variables and Methods
5.8	Scope and Access
5.9	this Keyword
5.10	Ethical and Social Implications of Computing Systems

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5.1-2A	Instance Variables/Constructors
5.1-2B	Encapsulation
5.3	Documentation with Comments
5.4-5-6A	Writing Methods
5.4-5-6B	Method Parameters
5.7	Static Variables and Methods
5.8A,5.9	Scope and Access, this Keyword
5.8B	Method Decomposition
5.10	Ethical and Social Implications of Computing Systems

Unit 6 – Array

6.1	Array Creation and Access
6.2	Traversing Arrays
6.3	Enhanced for Loop for Arrays
6.4	Developing Algorithms Using Arrays

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6.2	Traversing Arrays
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6.4	Developing Algorithms Using Arrays

Unit 7 – ArrayList

7.1	Introduction to ArrayList
7.2	ArrayList
7.3	Traversing ArrayLists
7.4	Developing Algorithms Using ArrayLists
7.5	Searching
7.6	Sorting
7.7	Ethical Issues Around Data Collection

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7.2	ArrayList
7.3	Traversing ArrayLists
7.4	Developing Algorithms Using ArrayLists
7.5-6	Searching and Sorting
7.7	Ethical Issues Around Data Collection

Unit 8 – 2D Array

8.1	2D Arrays
8.2	Traversing 2D Arrays

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8.2	Traversing 2D Arrays

Unit 9 – Writing Classes

CSA Course Exam Description Topics

9.1	Creating Superclasses and Subclasses
9.2	Writing Constructors for Subclasses
9.3	Overriding Methods
9.4	super Keyword
9.5	Creating References Using Inheritance Hierarchies
9.6	Polymorphism
9.7	Object Superclass

WeTeach_AP®CSA Topic Lessons

9.1	Creating Superclasses and Subclasses
9.2	Writing Constructors for Subclasses
9.3-4	Overriding, Overloading, Keyword super
9.5	Creating References Using Inheritance Hierarchies
9.6	Polymorphism
9.7	Object Superclass

Unit 10 – Recursion

10.1	Recursion
10.2	Recursive Searching and Sorting

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