

# AP Computer Science A

## At-A-Glance - Lamar CISD

Professional Standards/Employability Skills/Technical Skills			
<b>Ongoing Skills Imbedded All Year</b>	<ul style="list-style-type: none"> <li>• Increase and diversify participation in computer science</li> <li>• Students, regardless of prior experience in computing, will develop confidence using computer science as a tool to express themselves and solve problems, and this confidence will prepare them for success in future endeavors in the field of computer science</li> <li>• Students will understand the core principles of computing, a field which has and continues to change the world</li> <li>• Students will be able to develop computational artifacts to solve problems, communicate ideas, and express their own creativity</li> <li>• Students will be able to collaborate with others to solve problems and develop computational artifacts</li> <li>• Students will be able to explain the impact computing has on society, economy, and culture</li> <li>• Students will be able to analyze existing artifacts, identify and correct errors, and explain how the artifact functions</li> <li>• Students will be able to explain how data, information, or knowledge is represented for computational use</li> <li>• Students will be able to explain how abstractions are used in computation and modeling</li> <li>• Students will learn to be informed and responsible users of technology</li> </ul>		
<b>Ongoing Ways to Show</b>	Complete labs and assignment individually or as a team.		
Grading Period	Unit Name	Estimated Time Frame	TEKS
<b>Grading Period 1</b> <b>29 Days</b>	<b>Introductory Skills/ Set Up</b>	<b>4 Days</b>	
	<b>Unit 2: Primitive Types</b>	<b>10 Days</b>	MOD-1.A, VAR-1.A, VAR-1.B, VAR-1.C, CON-1. A, CON-1.B, CON-1.C
	2.1 Why Programming? Why Java? 2.2 Variables and Data Types 2.3 Expressions and Assignment Statements 2.4 Compound Assignment Operators 2.5 User Input 2.6 Casting and Ranges of Variables		
	<b>Unit 3: Using Objects</b>	<b>15 Days</b>	MOB-1.B, MOD-1.C, MOD-1.D, MOD-1.E, MOD-1.F, MOD -1.G, MOD-1.H CON-1.D VAR-1.E, VAR-1.F
	3.1 Objects: Instances of Classes 3.2 Creating and Storing Objects (Instantiation) 3.3 Calling a void Method. 3.4 Calling a Void Method with Parameters 3.5 Calling a Non-void Method. 3.6 String Objects: Concatenation, Literals and More 3.7 String Methods 3.8 Wrapper Classes: Integer and Double 3.9 Using the Math Class		
<b>Grading Period 2</b> <b>27 Days</b>	<b>Unit 4: Boolean Expressions and If Statements</b>	<b>14 Days</b>	CON-1.E, CON-2.A, CON-2.B, CON-1.F, CON-1.G, CON-1.H
	4.1 Boolean Expressions 4.2 If Statements and control flow 4.3 If-else Statements 4.4 else If Statements 4.5 Compound Boolean expressions 4.6 Equivalent Boolean Expressions 4.7 Comparing Objects		
	<b>Unit 5: Iteration</b>	<b>13 Days</b>	CON-2.C, CON-2.D, CON-2.E, CON-2.F, CON-2.G, CON-2.H

	5.1 Iterations (While loops) 5.2 For loops 5.3 Developing Algorithms Using Strings 5.4 Nested Iteration 5.5 Informal Code Analysis		
<b>Grading  Period 3  28 Days</b>	<b>Unit 6: Writing Classes</b>	<b>18 Days</b>	MOD-2.A, MOD-2.B, MOD-2.C, MOD-2.D, MOD-2.E, MOD-2.F, MOD-2.G, MOD-2.H, VAR-1.G, VAR-1.H IOC-1.A
	6.1 Writing Classes 6.2 Constructors 6.3 Documentation with comments 6.4 Accessor Methods 6.5 Mutator Methods 6.6 Writing Methods 6.7 Static Variables and Methods 6.8 Scope and Access 6.9 This keyword 6.10 Ethical and Social Implications of Computing Systems		
	<b>AP College Review</b>	<b>10 Days</b>	
<b>Grading  Period 4  31 Days</b>	<b>Unit 7: Array</b>	<b>15 Days</b>	VAR-2.A, VAR-2.B, VAR-2.C, CON-2.I
	7.1 Array creation and access 7.2 Traversing arrays 7.3 Enhanced for loop for arrays. 7.4 Developing algorithms using arrays		
	<b>Unit 8: ArrayList</b>	<b>16 Days</b>	VAR-2.D, VAR-2.E, CON-2.J, CON-2.K, CON-2.L, CON-2.M, IOC-1.B
	8.1 Introduction to ArrayList 8.2 ArrayList Methods 8.3 Traversing ArrayLists 8.4 Developing Algorithms Using ArrayLists 8.5 Searching 8.6 Sorting 8.7 Ethical Issues around Data Collection		
<b>Grading  Period 5  30 Days</b>	<b>Unit 9: 2D Array</b>	<b>14 Days</b>	VAR-2.F, VAR-2.G CON-2.N
	9.1 2D Arrays 9.2 Traversing 2D Arrays		
	<b>Unit 10: Inheritance</b>	<b>16 Days</b>	MOD-3.B, MOD-3.B, MOD-3.B, MOD-3.B, MOD-3.C, MOD-3.D, MOD-3.E
	10.1 Creating superclasses and subclasses. 10.2 Writing Constructors for Subclasses 10.3 Overriding Methods 10.4 Super Keyword 10.5 Creating references using inheritance hierarchies. 10.6 Polymorphism 10.7 Object superclasses		

<b>Grading Period 6 27 Days</b>	<b>Unit 11: Recursion</b>	<b>10 Days</b>	CON-2.O, CON-2.P, CON-2.Q
	11.1 Recursion 11.2 recursive searching and sorting		
	<b>Java Certification</b>	<b>5 Days</b>	
	<ul style="list-style-type: none"> <li>• GMetrix Preparation</li> <li>• Certiport Examination</li> </ul>		
	<b>AP Test Prep</b>	<b>5 Days</b>	
	See all of the TEKS above		
	<b>Enrichment Topics</b>	<b>7 Days</b>	
Robotics Arcade Games			