

AP Computer Science	
Unit	Concepts and Skills
Unit 1: Primitives & Printing	<ol style="list-style-type: none"> <li>1. Welcome</li> <li>2. Why Programming? Why Java?</li> <li>3. Variables and Data Types</li> <li>4. Expressions and Assignments</li> <li>5. Compound Assignment Operators</li> <li>6. User Input</li> <li>7. Casting and Ranges of Variables</li> </ol>
Unit 2: Using Objects	<ol style="list-style-type: none"> <li>1. Objects: Instances of Class</li> <li>2. Creating and Storing</li> <li>3. Overloading</li> <li>4. Calling a void method</li> <li>5. Calling a void method with parameters</li> <li>6. Calling a non-void method</li> <li>7. String Objects</li> <li>8. String Methods</li> <li>9. Wrapper Classes: Integer and Double</li> <li>10. Using the Math Class</li> </ol> <p>&gt;&gt; Lab: Magpie</p>
Unit 3: Boolean	<ol style="list-style-type: none"> <li>1. Boolean</li> <li>2. If</li> <li>3. If-Else</li> </ol>

	<ol style="list-style-type: none"><li>4. Else If</li><li>5. Compound Boolean Expressions</li><li>6. Equivalent Boolean Expressions</li><li>7. Comparing Objects</li></ol>
<b>Unit 4: Iteration</b>	<ol style="list-style-type: none"><li>1. While</li><li>2. For</li><li>3. String Algorithms</li><li>4. Nested Iteration</li><li>5. Code Analysis</li></ol>
<b>Unit 5: Writing Classes</b>	<ol style="list-style-type: none"><li>1. Anatomy</li><li>2. Constructor</li><li>3. Documentation with Comments</li><li>4. Accessor Methods</li><li>5. Mutator Methods</li><li>6. Writing Classes</li><li>7. Static Variables and Methods</li><li>8. Scope and Access</li><li>9. This</li><li>10. Ethical and Social Implications</li></ol>
<b>Unit 6: Array</b>	<ol style="list-style-type: none"><li>1. Create and Access</li></ol>

	<ol style="list-style-type: none"><li>2. Traverse Arrays</li><li>3. Enhanced For Loop</li><li>4. Array Algorithms</li></ol>
<b>Unit 7: ArrayList</b>	<ol style="list-style-type: none"><li>1. Create</li><li>2. ArrayList Methods</li><li>3. Traverse ArrayLists</li><li>4. ArrayList Algorithms</li><li>5. Searching</li><li>6. Sorting</li><li>7. Ethics of Data</li></ol> >> Lab: Blackjack
<b>Unit 8: 2D Array</b>	<ol style="list-style-type: none"><li>1. 2D Arrays</li><li>2. Traversing 2D Arrays</li></ol> >> Lab: Battleship
<b>Unit 9: Inheritance</b>	<ol style="list-style-type: none"><li>1. Superclass and Subclass</li><li>2. Writing Constructors of Subclass</li><li>3. Overriding Methods</li><li>4. Super Keyword</li><li>5. Creating References Using Inheritance</li><li>6. Polymorphism</li><li>7. Object Superclass</li></ol>

<b>Unit 10: Recursion</b>	<ol style="list-style-type: none"><li>1. Recursion</li><li>2. Searching</li><li>3. Sorting</li></ol> >> Lab: Minesweeper
<b>Unit 11: AP Exam Review</b>	<ul style="list-style-type: none"><li>● Practice Exam 2020<ul style="list-style-type: none"><li>○ FRQ Presentations</li><li>○ MCQ Analysis</li></ul></li><li>● Practice Exam 2019<ul style="list-style-type: none"><li>○ FRQ Practice</li><li>○ MCQ Analysis</li></ul></li></ul>
<b>Unit 12: Independent Study</b>	<ol style="list-style-type: none"><li>1. Consider / Brainstorm Options</li><li>2. Initial Research</li><li>3. Timeline, Narrow Focus</li><li>4. Learn</li><li>5. Presentation</li></ol>