

## Yearly Overview Plan

Term 1	Subject: Computer Science		
<u>Unit Topic</u>	<u>Learning Outcomes</u>	<u>Real World / UAE Application</u>	<u>Assessment Methods</u>
<u>Introduction to Python for GCSE</u>	<ul style="list-style-type: none"> <li>• Learn what Python is and some of the applications it is used for</li> <li>• Run a simple Python program in Interactive mode using the <b>input</b> and <b>print</b> functions</li> <li>• Write, save and run a program in Script mode</li> <li>• Understand what a syntax error is and how to interpret an error message</li> <li>• Know the rules for variable names and use variables in a program</li> <li>• Understand the use and value of comments in a program</li> <li>• Understand the importance of using correct data types <i>string, integer, float</i></li> <li>• Understand how to use assignment statements correctly</li> <li>• Perform arithmetic using the BIDMAS rule</li> <li>• Use the <i>int, float</i> and <i>round</i> functions</li> <li>• Write a program involving input, calculation and output</li> <li>• Use selection statements <i>if, else</i> and <i>elif</i> in a program</li> <li>• Use indentation correctly to define a block of code</li> <li>• Learn to write algorithms in pseudocode</li> <li>• Review the difference between syntax errors, run-time errors and logic errors</li> <li>• Learn techniques for debugging programs</li> </ul>		<ul style="list-style-type: none"> <li>• 6 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen.</li> <li>• Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.</li> </ul>

	<ul style="list-style-type: none"> <li>• Use a <i>while</i> loop in a program</li> <li>• Use an <i>if</i> statement within a while loop</li> <li>• Use a function to generate a random number</li> <li>• Understand and apply the principle of a binary search</li> <li>• Compare the efficiency of a binary search with a linear search</li> </ul>		
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Term 2	Subject: Computer Science		
<u>Unit Topic</u>	<u>Learning Outcomes</u>	<u>Real World / UAE Application</u>	<u>Assessment Methods</u>
<u>Python next steps</u> <u>GCSE</u>	<ul style="list-style-type: none"> <li>• Correctly read and understand an existing Python program</li> <li>• Recall different data types</li> <li>• Use the <b>int()</b>, <b>float()</b> and <b>str()</b> functions to convert data types</li> <li>• Write an if-else statement</li> <li>• Use a <b>while</b> loop to repeat a section of code</li> <li>• Use a <b>for</b> loop to repeat a section of code</li> <li>• Make a choice about which loop to use, and why</li> <li>• Be able to store and update values in a list</li> <li>• Be able to append data to a list</li> <li>• Be able to use a <b>for()</b> loop to step through a list</li> <li>• Understand why using a list can be more efficient than using single variables</li> <li>• Understand what a procedure is</li> <li>• Be able to define and call a procedure</li> <li>• Understand why procedures are useful</li> <li>• Be able to use parameters in a procedure</li> </ul>		<ul style="list-style-type: none"> <li>• 6 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen.</li> <li>• Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.</li> </ul>

	<ul style="list-style-type: none"> <li>• Understand what a function is</li> <li>• Be able to define a function</li> <li>• Be able to call a function and capture the return value</li> </ul>		
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Term 3		Subject: Computer Science			
Unit Topic		Learning Outcomes		Real World / UAE Application	Assessment Methods
Ethics	Wk1	<ul style="list-style-type: none"> <li>• Understand the difference between ethics and law</li> <li>• Understand the principles of copyright law and know how to apply it</li> <li>•</li> </ul>			<ul style="list-style-type: none"> <li>• 6 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen.</li> <li>• Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own</li> </ul>
	Wk2	<ul style="list-style-type: none"> <li>• Define and compare plagiarism with copyright law</li> <li>• Describe how social responsibility impacts computer use</li> </ul>			
	Wk3	<ul style="list-style-type: none"> <li>• Learn about the social implications of computer systems design and use</li> </ul>			
	Wk4	<ul style="list-style-type: none"> <li>• Understand the need to recycle old computer equipment and the benefits of doing so</li> <li>•</li> </ul>			
	Wk5	<ul style="list-style-type: none"> <li>• Discuss the impact of the spread of electronic communication</li> <li>• Discuss the ethics of sending unsolicited or bulk email</li> </ul>			
	Wk6	<ul style="list-style-type: none"> <li>• Know what cyberbullying is, and the consequences of sending or receiving such material</li> </ul>			

	Wk7	<ul style="list-style-type: none"> <li>• Discuss the impact of trolling in social media</li> </ul>		
	Wk8	<ul style="list-style-type: none"> <li>• Discuss the meaning of “computer ethics” with the use of some examples</li> </ul>		
	Wk9	<ul style="list-style-type: none"> <li>• Explain the wider effects of copyright infringement</li> </ul>		
	Wk10	<ul style="list-style-type: none"> <li>• Be able to apply their knowledge in answers to a range of questions</li> <li>• Be able to highlight areas of strength and any gaps in their understanding of computers</li> </ul>		
	Wk11	<ul style="list-style-type: none"> <li>• Be able to apply their knowledge in answers to a range of questions</li> <li>• Be able to highlight areas of strength and any gaps in their understanding of computers</li> </ul>		