

Programme of study for Year 10 Computer Science

Autumn (1 st term) Topic	Autumn (2 nd term) Topic	Spring (1 st term) Topic	Spring (2 nd Term) Topic	Summer (1 st term) Topic	Summer (2 nd term) Topic
<p>Component 1:</p> <p>1.2.3– Units of data storage. Denary, Binary addition, logical shift, HEX, characters encoding, images, sound and compression.</p>	<p>Component 2:</p> <p>2.1 -Algorithms: Linear and Binary Search, sorting algorithms</p> <p>2.2.1 -Programming fundamentals</p>	<p>Component 1:</p> <p>1.1 - System architecture</p> <p>Component 2:</p> <p>2.1 -Algorithms: Pseudo code. Interpret correct and complete algorithms.</p> <p>Component 2:</p> <p>2.2.2 - Data types</p>	<p>Component 1:</p> <p>1.2- Memory and storage</p> <p>Component 2:</p> <p>2.2.1 - Programming fundamentals</p> <p>Boolean operators AND, OR and NOT</p> <p>Python projects</p>	<p>Component 1:</p> <p>1.3 Computer networks, connections and protocols.</p> <p>Component 2:</p> <p>2.1.2 Identify common errors and trace tables.</p> <p>2.4 - Boolean logic</p>	<p>Component 1:</p> <p>1.4.1- Threats to computer systems and networks.</p> <p>Forms of attack.</p> <p>1.4.2- Identifying and preventing vulnerabilities.</p> <p>Common prevention methods.</p> <p>Component 2:</p> <p>Python projects</p>
End of term 1 evidence to cover:		End of term 2 evidence to cover:		End of year evidence to cover:	
<p>Rationale for sequence:</p> <p>Simple introduction to Easiest standard algorithms and Representing Data as 1's and 0's</p>	<p>Rationale for sequence:</p>	<p>Rationale for sequence:</p>	<p>Rationale for sequence:</p> <p>Introduction to Networking and retaining coding skills</p>	<p>Rationale for sequence:</p> <p>Keeping up coding skills and using the IDE more effectively for identifying errors.</p>	<p>Rationale for sequence:</p> <p>Producing</p>

Home – Learning: Home learning <u>related to the topic</u> completed during the term.	Home – Learning: Home learning <u>related to the topic</u> completed during the term.	Home – Learning: Home learning <u>related to the topic</u> completed during the term.	Home – Learning: Home learning <u>related to the topic</u> completed during the term.	Home – Learning: Home learning <u>related to the topic</u> completed during the term.	Home – Learning: Home learning <u>related to the next topic</u> to be completed so that students get a chance to become familiar with the content.
Reading / High Quality Text: https://www.teach-ict.com/gcse_computing/ocr/214_representing_data/number/miniweb/pg2.php	Reading / High Quality Text: https://www.teach-ict.com/gcse_computing/ocr/214_representing_data/sound/miniweb/pg3.php	Reading / High Quality Text: https://teach-ict.com/2016/GCSE_Computing/OCR_J276/2_6_data_representation/compression/miniweb/index.php	Reading / High Quality Text: https://www.teach-ict.com/gcse_new/networks/topologies/miniweb/index.htm	Reading / High Quality Text: https://www.teach-ict.com/2016/GCSE_Computing/OCR_J276/1_5_to_topologies_protocols_layers/protocols_addressing/miniweb/index.php	Reading / High Quality Text: https://teach-ict.com/2016/GCSE_Computing/OCR_J276/1_6_network_security/intro_network_security/miniweb/index.php
Numeracy: Numbers Binary and HEX	Numeracy: Bit depth	Numeracy: Compression techniques	Numeracy: Bandwidth	Numeracy: Data packets	Numeracy: Data types, int, real/float
Enrichment / opportunities to develop cultural capital (including careers, WRL and SMSC):					



Enrichment: **Think Computer Science** – hosted by Microsoft Research Cambridge, Imperial War Museum, Duxford, Cambridgeshire