

Key Stage 5 Curriculum Map 2021-22

Term 1

Subject: Computer Science	Year: 13		
Focus/Topic	UAE Links	HPL Links	Home Learning/ Recommended Reading
Student induction			
Programming paradigms - both procedural and object-oriented programming	Programming activities with links to the UAE	HARD WORKING-Perseverance	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Inheritance Polymorphism paradigms	Programming activities with links to the UAE	ANALYSING-Precision AGILE- Risk taking	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
OO Abstraction	Programming activities with links to the UAE	ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Recursive techniques Assessment	Programming activities with links to the UAE	HARD WORKING-Resilience ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Abstract data types <ul style="list-style-type: none"> ○ Stacks ○ Queues ○ Lists ○ Graphs 	Creating abstract data types to mimic daily scenarios in the UAE	META-THINKING-Meta cognition	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Abstract data types <ul style="list-style-type: none"> ○ Binary Tree ○ Hashing/hash table ○ Dictionary's ○ Vectors 	Abstract data type to relate to UAE e.g. tree's and Emirates	META-THINKING-Meta cognition	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
Half Term			

<ul style="list-style-type: none"> • Optimisation algorithms <ul style="list-style-type: none"> ○ Dijkstra's ○ Traversals ○ Reverse Polish Notation 	Shortest path algorithms to be applied to routes around the Dubai	ANALYSING - <i>Critical or logical</i> HARD WORKING - <i>Practice</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Programming linear & binary searches • Sorting algorithms 	Accountability	HARD WORKING - <i>Practice</i> ANALYSING - <i>Critical or logical</i>	Reading: Alevel textbook Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Turning Machines • Maths for regular expressions • Regular expressions and languages • Context free language 	Accountability	ANALYSING - <i>Precision</i> HARD WORKING - <i>Practice</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • BNF • Big O notation • The binary number system 	How companies within the UAE collect, store and process big data	ANALYSING - <i>Precision</i> HARD WORKING - <i>Practice</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • The Internet • Internet security 	IP address around the world and within the UAE region	LINKING - <i>Big picture thinking</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • TCP/IP • Client server model 	Integrity	ANALYSING - <i>Precision</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
<ul style="list-style-type: none"> • Computer Systems (Alevel) • Computer Organisation Architecture (Alevel) 	Accountability	HARD WORKING - <i>Practice</i>	Reading: Alevel textbook Home learning: as per lesson resources online/NEA
Winter Break			