

Key Stage 5 Curriculum Map 2021-22

Term 1

Subject: Computer Science	Year: 12		
Focus/Topic	UAE Links	HPL Links	Home Learning/ Recommended Reading
Student induction			
<ul style="list-style-type: none"> • Number Systems • Number Bases 	Accountability	HARD WORKING-Practice REALISING-Automaticity	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Binary number system including floating points, two complement and fractions • Coding systems <ul style="list-style-type: none"> ○ ASCII & Unicode 	Floating point numbers – population of UAE using normalisation	HARD WORKING-Practice REALISING-Automaticity	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Coding systems <ul style="list-style-type: none"> ○ Error Checking ○ Bitmapped and Vector Graphics ○ Analogue and Digital audio • Assessment 	Links to the UAE flag - graphics	ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Sound Compression & Nyquist theory • Sound Synthesis • Assessment 	Compression to national anthem	ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Feedback and improvements • Encryption 	UAE Cyber Laws	ANALYSING-Precision META-THINKING-Intellectual Confidence	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Fundamentals of Programming including Data Types, Programming concepts and 	Programming scenarios linked to the UAE Accountability and brotherhood	HARD WORKING-Practice REALISING-Speed and accuracy	Reading: Alevel textbook Home learning: as per lesson resources online

Arithmetic operations in a programming language			
Half Term			
<ul style="list-style-type: none"> • Programming concepts including; <ul style="list-style-type: none"> ○ Selection ○ Boolean operators ○ Iteration ○ built in function • 	Programming scenarios linked to the UAE Accountability and brotherhood	HARD WORKING-Practice ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Programming concepts including; <ul style="list-style-type: none"> ○ procedures and function ○ parameters ○ trace tables ○ exception handling • Mini assessment 	Programming scenarios linked to the UAE Accountability and brotherhood	HARD WORKING-Perseverance ANALYSING-Precision	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Single and multi-dimensional arrays • External data • Fields records and files <ul style="list-style-type: none"> ○ User Defined Data Types 	Programming scenarios linked to the UAE Accountability and brotherhood	HARD WORKING-Resilience LINKING- Connection finding	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Validation • Sorting and searching • The roles of variables • Fundamentals of Structured programming approaches 	Programming scenarios linked to the UAE Accountability and brotherhood	CREATING- Intellectual playfulness	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Logic bit and set operators • Assessment 	Programming scenarios linked to the UAE Accountability and brotherhood	META-THINKING-Meta cognition	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Computational thinking • Stages of problem solving • Algorithm design • Abstraction and automation 	Accountability	HARD WORKING-Resilience	Reading: Alevel textbook Home learning: as per lesson resources online
<ul style="list-style-type: none"> • Finite State Machines • Assessment 	Brotherhood	HARD WORKING-Perseverance	Reading: Alevel textbook Home learning: as per lesson resources online
Winter Break			

