Yearly Overview Plan

Term 1	**Subject: Computer Science**		
Unit Topic	Learning Outcomes	Real World / UAE Application	Assessment Methods
1.4 security	• show understanding of the need to keep data safe from accidental damage, including corruption and human errors • show understanding of the need to keep data safe from malicious actions, including unauthorised viewing, deleting, copying and corruption	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.
1.4.2 security	• show understanding of how data are kept safe when stored and transmitted, including: • – use of passwords, both entered at a keyboard and biometric • – use of firewalls, both software and hardware, including proxy servers • – use of security protocols such as Secure Socket Layer (SSL) and Transport Layer Security (TLS) • – use of symmetric encryption (plain text, cypher text and use of a key) showing understanding that increasing the length of a key increases the strength of the encryption	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.
1.4.2 security	show understanding of the need to keep online systems safe from attacks including denial of service attacks, phishing, pharming	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.

Term 2	Subject: Computer Science		
Unit Topic	Learning Outcomes	Real World / UAE Application	Assessment Methods
1.5 Ethics	• show understanding of computer ethics, including copyright issues and plagiarism • distinguish between free software, freeware and shareware • show understanding of the ethical issues raised by the spread of electronic communication and computer systems, including hacking, cracking and production of malware	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.

Term 3	Subject: Computer Science		
Unit Topic	Learning Outcomes	Real World / UAE Application	Assessment Methods
2.1 Algorithms	• show understanding that every computer system is made up of sub-systems, which in turn are made up of further sub-systems • use top-down design, structure diagrams, flowcharts, pseudocode, library routines and sub-routines • work out the purpose of a given algorithm • explain standard methods of solution • suggest and apply suitable test data • understand the need for validation and verification checks to be made on input data (validation could include range checks, length checks, type checks and check digits) • use trace tables to find the value of variables at each step in an algorithm • identify errors in given algorithms and suggest ways of removing these errors • produce an algorithm for a given problem (either in the form of pseudocode or flowchart) • comment on the effectiveness of a given solution	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.
2.1.2 Pseudocode	• understand and use pseudocode for assignment, using ← • understand and use pseudocode, using the following conditional statements: • `IF ... THEN ... ELSE ... ENDIF`	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen.

	• CASE ... OF ... OTHERWISE ... ENDCASE • understand and use pseudocode, using the following loop structures: • FOR ... TO ... NEXT • REPEAT ... UNTIL • WHILE ... DO ... ENDWHILE • understand and use pseudocode, using the following commands and statements: INPUT and OUTPUT (e.g. READ and PRINT) totalling (e.g. Sum ← Sum + Number) counting (e.g. Count ← Count + 1)		• Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.
2.2 programming	• declare and use variables and constants • understand and use basic data types: Integer, Real, Char, String and Boolean • understand and use the concepts of sequence, selection, repetition, totalling and counting • use predefined procedures/functions	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.
2.3 Databases	• define a single-table database from given data storage requirements • choose and specify suitable data types • choose a suitable primary key for a database table • perform a query-by-example from given search criteria	• Where possible link subject content to the UAE if applicable	• 4 weekly exams based on content; homework tailored based on content. Formal assessment with feedback and purple pen. • Students to peer and self-assess when appropriate in order to find issues with each other's work and errors in their own.