

Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 3 Year: 8

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	Word Processing	<p>Understanding the role and importance of ICT</p> <p>To demonstrate basic software skills in word processing</p> <p>To develop key board skills</p> <p>To identify correct tools and techniques</p> <p>To create a page using a variety of tools</p>	Page production	<p>Knowledge of Office products</p> <p>Presentation skills</p> <p>Digital literacy</p> <p>Attention to detail</p> <p>Organisational skills</p> <p>Self-editing and proof-reading skills</p>	<p>Reflectiveness</p> <p>Readiness</p>
Au2	Spreadsheet – Pixel Art	<p>To improve hand/eye coordination</p> <p>To develop mouse skills</p> <p>To understand the concepts of cells, shading and borders</p> <p>To identify correct tools and techniques</p> <p>To create a number of pixel images</p> <p>To create graphs with correct labelling</p>	Image creation Basic spreadsheets created and printed	<p>Knowledge of industry led products</p> <p>Digital literacy</p> <p>Attention to detail</p> <p>Organisational skills</p> <p>Self-editing and proof-reading skills</p>	<p>Resilience</p> <p>Remembering</p>
Sp1	Coding & Microbit	To understand how instructions are stored and executed	www.code.org course	<p>Time Management</p> <p>Project management</p>	Resilience and problem solving

		To identify hardware and software To apply the principles and concepts of computer science	3 modules created & tested	Digital literacy Attention to detail Self-editing and proof-reading skills	Reflectiveness Remembering
Sp2	Powerpoint	To create a presentation using a variety of tools To understand the need to use a master slide, add transition and animations To design a presentation for an audience	Creation of a virtual tour	Presentation techniques Acting on feedback Digital literacy Attention to detail Organisational skills Self-editing and proof-reading skills	Reflectiveness Readiness
Su1	ICT Theory	To understand how to use search engines To define web browsing and effective online searching To understand email etiquette and communication skills Can identify hardware and software	Its Learning Tests	Digital literacy Attention to detail Self-editing and proof-reading skills	Remembering
Su2	DTP	To present data effectively To combine data, text and images into an appropriate format To evaluate digital content and make improvements	Create a printed leaflet	Research Skills Digital literacy Attention to detail Organisational skills Self-editing and proof-reading skills	Resilience Relationships

Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 3

Year: 9

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	DTP – Health Club Leaflet	To apply knowledge of digital content to create leaflet To generate content for a different audience To demonstrate software skills To enhance the presentation of digital content	Leaflet production	Software skills in Office Software Effective research skills Time Management skills Creative skills using tools and techniques Self-editing and proof-reading skills	Relationships Reflectiveness Remembering Responding to feedback Time management Presenting to an audience
Au2	Databases	To understand the basics of databases To identify fields, records, data types To create data structures Create simple queries using AND, OR NOT Export report from access into word	Character Cards	Software skills in Office Software Effective research skills Time Management skills Creative skills using tools and techniques	Resilience Readiness Remembering
Sp1	Spreadsheets	Introduction to spreadsheets and their applications Entering and manipulating data, creating simple formulas To create a simple functions SUM, MIN, MAX To understand the difference between relative and absolute referencing To be able to integrate into word/ppt/access To apply simple validation	Create POND spreadsheet Create RENTAL spreadsheet	Software skills in Office Software Effective research skills Time Management skills Creative skills using tools and techniques	Resilience Readiness Remembering
Sp2	Video/animation	To learn new software skills	Balloon Animation Pig Run animation	Software skills in Office Software	Resilience Readiness

	Html – website/ Dreamweaver	To create digital content for an audience To understand the correct html syntax To apply knowledge of tags to create simple notepad pages	Character Walk Rig animation Html page(s)	Time Management skills Skills in using industry led software Knowledge of html and website design Self-editing and proof-reading skills	Remembering
Su1	VB/Code.org	To understand the correct syntax for write.console To create an automated height/weight calculator using the interface	Creation of interface	Software skills in Office Software Effective research skills Initiative Independence Self-editing and proof-reading skills	Resilience Readiness Remembering
Su2	Group Project	To plan, design and create an event To create digital products To apply knowledge of audience to products To refine and modify products	Group Business Marketing Task Digital Creation of products	Initiative Independence Self-editing and proof-reading skills	Relationships Resilience Readiness Remembering

Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 4 Year: 10

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	Theory <ul style="list-style-type: none"> Types & Components of Computer Systems Input, Output devices 	Know & Understand <ul style="list-style-type: none"> hardware and software, the CPU and internal memory. Digital and analogue data differences input & output devices, backing storage, operating systems desktop computers, mobile computers and impact of emerging technologies 	Past Paper Questions Create an extended document from source file given	<ul style="list-style-type: none"> Knowledge & Application Keyboard skills ICT skills in Office Applications Technical knowledge Self-editing and proof-reading skills 	Transferable skills such as communication, teamwork, research and analysis Remembering Resourcefulness Readiness Resilience
	Practical <ul style="list-style-type: none"> Document Production 	Be able to <ul style="list-style-type: none"> Create and edit documents Organise, format and work with tables Know & understand <ul style="list-style-type: none"> key word processing terms Create, understand and apply corporate house styles Be able to <ul style="list-style-type: none"> perform visual verification, proofread, spell check and reduce errors 			
Au2	Theory <ul style="list-style-type: none"> Storage devices and media Networks 	Know & Understand <ul style="list-style-type: none"> A router, common network devices, wi-fi and Bluetooth Cloud computing, network types & environments Security issues regarding data transfer, passwords, authentication methods Electronic conferencing 	Past Paper theory questions Its Learning Quizzes Socratic Quiz Create a master slide	<ul style="list-style-type: none"> Knowledge & Application Keyboard skills ICT skills in Office Applications 	Remembering Resourcefulness Readiness Resilience

	Practical Presentations	Be able to <ul style="list-style-type: none"> • use a master slide • create a presentation and format a presentation • Find and Import an .rtf file in presentation software 	Past Question from Paper 2	<ul style="list-style-type: none"> • Technical knowledge 	
Sp1	Theory <ul style="list-style-type: none"> • Microprocessor-controlled devices 	Know & Understand <ul style="list-style-type: none"> • The effects of using microprocessor-controlled devices • Health issues of working with computers 	Past Paper theory questions Its Learning Quizzes Socratic Quiz	<ul style="list-style-type: none"> • Knowledge & Application • Keyboard skills • ICT skills in Office Applications • Technical knowledge 	Remembering Resourcefulness Readiness Resilience
	Practical <ul style="list-style-type: none"> • Presentations • Tables in both ppt and doc 	Be able to <ul style="list-style-type: none"> • create, label and edit a graph or chart • Edit a presentation to include objects, animations and transitions • Add screentips to an image • Output the presentation on a loop 	Past Question from Paper 2		
Sp2	Theory <ul style="list-style-type: none"> • Health problems with IT equipment • Communication 	Know and Understand <ul style="list-style-type: none"> • Health Issues • Communication media & mobile communication • Do and Don'ts within theory and practical exams 	Past Paper theory questions Its Learning Quizzes Socratic Quiz Create/Print a spreadsheet	<ul style="list-style-type: none"> • Knowledge & Application • Keyboard skills • ICT skills in Office Applications • Technical knowledge 	Remembering Resourcefulness Readiness Resilience
	Practical Excel	Know and understand <ul style="list-style-type: none"> • formulae and functions • order of operations • cell referencing 	Past Question from Paper 3		
Su 1	Theory <ul style="list-style-type: none"> • Functions and Formulae 	<ul style="list-style-type: none"> • Understanding Exam questions. • Command words • Exam technique and pitfalls 	Past Paper theory questions Practical exams of sorting Workbook completion	<ul style="list-style-type: none"> • Knowledge & Application • Keyboard skills • ICT skills in Office Applications 	Remembering Resourcefulness Readiness Resilience
	Practical <ul style="list-style-type: none"> • Computer modelling software 	Understand Know the purpose of computer modelling and impact Be able to			

		<ul style="list-style-type: none"> • create and edit a spreadsheet model • sort, search and select data, display features and format a spreadsheet • set page layouts 	Past Question from Paper 3	<ul style="list-style-type: none"> • Technical knowledge • Self-editing and proof-reading skills 	
Su 2	Theory	Revision Mock Exam Paper 1	Mock Exam Paper 1 Paper 2	<ul style="list-style-type: none"> • Knowledge & Application • Keyboard skills • ICT skills in Office Applications • Technical knowledge 	Remembering Resourcefulness Readiness Resilience
	Practical	Be able to <ul style="list-style-type: none"> • print the presentation in different formats • Feedback • Reflection 			

Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 4 Year: 11

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	Theory <ul style="list-style-type: none"> Data Manipulation Use of Databases in industry Booking systems 	Know and Understand <ul style="list-style-type: none"> Database structures Identify the differences between flat file and relational databases 	Written Past question Socratic Questions Its Learning tests Practical Tasks Past Exam Questions from Paper 2	<ul style="list-style-type: none"> Knowledge application Keyboard skills ICT skills in Office Applications Technical knowledge Understanding of systems in the workplace Understand examiners terminology 	Transferable skills such as communication, teamwork, research and analysis Remembering Resourcefulness Readiness Resilience
	Practical <ul style="list-style-type: none"> Databases 	Be able to <ul style="list-style-type: none"> Understand the technical terms Create data structures using different file types Search, extract and modify data 			
Au2	Theory <ul style="list-style-type: none"> ICT in employment 	Know and Understand <ul style="list-style-type: none"> Effects of ICT in employment Use of microprocessor devices Compressed v part time hours ICT in manufacturing, retail and banking 	Common Pitfalls Examiner feedback Exam do's and don'ts Its Learning html quiz	<ul style="list-style-type: none"> Knowledge application Keyboard skills ICT skills in Office Applications Technical knowledge 	Transferable skills such as communication, teamwork, research and analysis Remembering Resourcefulness Readiness

	Practical <ul style="list-style-type: none"> Databases Website authoring 	Be able to <ul style="list-style-type: none"> Sort and present data, add functions and data entry forms Introduce html and text editing 	Past Exam Questions from Paper 3	<ul style="list-style-type: none"> Understanding of systems in the workplace Understand exam pitfalls 	Resilience
Sp1	Theory <ul style="list-style-type: none"> ICT applications 	Know and Understand <ul style="list-style-type: none"> Communication applications Measurement applications Modelling applications Expert systems Computers in medicine, libraries, education 	Theory longer mark question Past Paper 1 Past Paper 2 Practical Exam (April)	<ul style="list-style-type: none"> Knowledge application Keyboard skills ICT skills in Office Applications Technical knowledge Understanding of systems in the workplace 	Transferable skills such as communication, teamwork, research and analysis Remembering Resourcefulness Readiness Resilience
	Practical <ul style="list-style-type: none"> Website Authoring 	Be able to <ul style="list-style-type: none"> Recognise simple markup Create simple html markup Recognise errors and debug programs Insert images 	Past Exam Questions from Paper 3		
Sp2	Theory	Know and Understand <ul style="list-style-type: none"> CSS syntax Create stylesheets Format images and insert bookmarks 	Past Question Review External iGCSE exam (May)	<ul style="list-style-type: none"> Knowledge application Keyboard skills ICT skills in Office Applications Technical knowledge Understanding of systems in the workplace 	Transferable skills such as communication, teamwork, research and analysis Remembering Resourcefulness Readiness Resilience

Study Leave					
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Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 5 Year: 12

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	Unit 1 Digital Devices in IT Systems LA: A	<p>Understand issues surrounding choice of IT systems</p> <p>Describe digital devices that form part of all IT systems</p> <p>Define peripherals and media</p> <p>Identify computer software in an IT system</p> <p>Apply knowledge of Emerging Technologies</p> <p>Identify the correct IT systems</p> <p>AO1 Demonstrate knowledge and understanding of information technology terms, standards, concepts and processes</p> <p>AO2 Apply knowledge and understanding of information technology terms, standards, concepts and processes</p>	<p>Short exam-style question Q&A</p> <p>Know it all Ninja Tests</p>	<ul style="list-style-type: none"> • Knowledge of current and emerging technologies • effective writing • analytical skills • creative development 	<p>Transferable skills such as communication, teamwork, research and analysis, which are valued in both higher education and the workplace.</p> <p>Resilience</p> <p>Remembering</p> <p>Resourcefulness</p> <p>Cognitive and problem-solving skills</p> <p>intrapersonal skills:</p> <p>interpersonal skills: self-management, adaptability, self-monitoring and development.</p>
Au2	Unit 1 Protecting Data LA: B	<p>AO4 Analyse and evaluate information, technologies and procedures to recommend and justify solutions to IT problems</p> <p>AO5 Make connections between the application of technologies, procedures, outcomes and solutions to resolve IT problems</p>	<p>Short exam-style question</p> <p>Medium and Longer style essay questions</p> <p>Past Paper (Mock)</p> <p>External Unit Assessment</p>	<ul style="list-style-type: none"> • Knowledge of current and emerging technologies • effective writing • analytical skills • creative development 	<p>Transferable skills such as communication, teamwork, research and analysis, which are valued in both higher education and the workplace.</p> <p>Resilience</p> <p>Remembering</p> <p>Resourcefulness</p>

					Cognitive and problem-solving skills intrapersonal skills: interpersonal skills: self-management, adaptability, self-monitoring and development.
Sp1	Unit 3 - explore how businesses use social media to promote their products and services	To understand how businesses use social media Explore the impact of social media on the ways in which businesses promote their products and services	Internal Assessment: Learning aim: A (A.P1, A.P2, A.M1, A.D1) A report that explores how a business can use social media to raise its profile and promote products and services.	<ul style="list-style-type: none"> • effective writing • analytical skills • creative development • Analytical knowledge of stats 	Transferable skills such as communication, teamwork, research and analysis, which are valued in both higher education and the workplace. Resilience Remembering Resourcefulness Cognitive and problem-solving skills intrapersonal skills: interpersonal skills: self-management, adaptability, self-monitoring and development.
Sp2	Unit 3: Develop a plan to use social media in a business to meet requirements Implement the use of social media in a business	Creating accounts and profiles Content creation and publication Implementation of online community building Data gathering and analysis Skills, knowledge and behaviours	Internal Assessment: Learning aims: B and C (B.P3, B.P4, C.P5, C.P6, B.M2, C.M3, BC.D2, BC.D3) Documentation showing the planning, preparation and implementation of the use of social media in a business, which meets identified requirements. Established social media pages dedicated to the business, which fulfil the requirements given in the	<ul style="list-style-type: none"> • Time management • Initiative • Analytical knowledge of stats 	Transferable skills such as communication, teamwork, research and analysis, which are valued in both higher education and the workplace. Resilience Remembering Resourcefulness Cognitive and problem-solving skills intrapersonal skills: interpersonal skills: self-management, adaptability,

			<p>plan, accompanied by supporting documentation.</p> <p>Statistical data generated by social media websites, including an analysis of how it was used to optimise the use of social media.</p> <p>A report evaluating the use of social media in a business against the plan, showing how well it meets business requirements.</p>		<p>self-monitoring and development.</p>
Su 1	<p>LA:C &D information, impact of IT systems and moral and ethical Issues</p>	<p>To understand the moral and ethical issues of computers</p> <p>To define the features of online communities</p> <p>To understand the implications for individuals of using and accessing online communities</p>	<p>A past exam question</p> <p>Text book exercise</p>		<p>Transferable skills such as communication, teamwork, research and analysis, which are valued in both higher education and the workplace.</p> <p>Resilience</p> <p>Remembering</p> <p>Resourcefulness</p> <p>Cognitive and problem-solving skills intrapersonal skills: interpersonal skills: self-management, adaptability, self-monitoring and development.</p>
Su2	<p>LA:E Operating online</p>	<p>Describe the personal and professional uses and applications of cloud storage and cloud computing</p> <p>To understand the impact and implications on individuals and organisations of using cloud storage</p>	<p>Past Exam Question</p>		

Curriculum and Skills Mapping Template

Subject : ICT Key Stage: 5 Year: 13

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	<p>Unit 2 Creating systems to manage information</p> <p>Unit 1 The issues, implications and threats to storing and transmitting information in digital form.</p>	<p>AO1 Demonstrate knowledge of database development terminology, standards, concepts and processes</p> <p>AO2 Apply knowledge and understanding of database development terminology, standards, concepts and processes to create a software product to meet a client brief</p> <p>AO3 Analyse information about database problems and data from test results to optimise the performance of a database solution</p> <p>AO5 Make connections between the application of technologies, procedures, outcomes and solutions to resolve IT problems</p>	<p>Design, create, test and evaluate a relational database system to manage information.</p> <p>Practice Exam Questions</p>	<p>Knowledge and understanding of database design and development terminology, standards, concepts and processes</p>	<p>Problem-solving skills to design and develop a solution in context.</p>
Au2	<p>Unit 2 Creating systems to manage information</p> <p>Unit 1 Impact of IT systems and moral and ethical issues</p>	<p>AO4 Evaluate evidence to make informed judgements about the success of a database's design and performance.</p> <p>AO5 Be able to develop a database solution to meet a client brief with appropriate justification</p> <p>AO5 Make connections between the application of technologies, procedures, outcomes and solutions to resolve IT problems</p>	<p>External Set Task</p>		

Sp1	<p>Unit 5 Data Modelling LA: A</p> <p>For this unit, learners must have access to hardware and software resources that will allow them to use the features and functions of spreadsheet software, as given in the unit content, to design and develop data models</p>	<p>Learning aim, A: Investigate data modelling and how it can be used in the decision-making process</p> <p>Explain the stages involved in the decision-making process for data modelling.</p> <p>Explain how the features of spreadsheet software are used to support the decision-making process.</p> <p>Analyse how the features of spreadsheet software contribute to the decision-making process</p> <p>Evaluate how the features of spreadsheet software contribute to the decision-making process.</p>	<p>Learning aim: A (A.P1, A.P2, A.M1, A.D1)</p>	<p>The skills developed in this unit are useful for progression to computing or business-related higher education courses and for use in decision making in the workplace.</p>	<p>Develop the skills to create complex spreadsheets</p> <p>Decision making</p> <p>Relationships</p> <p>Resourcefulness</p>
Sp2	<p>Unit 5 Data Modelling LA: b & C</p>	<p>Learning aim B: Design a data model to meet client requirements</p> <p>Produce designs for a data model which meet client requirements.</p> <p>Review the designs with others, to identify and inform improvements.</p> <p>Justify decisions made, showing how the design will fulfil its purpose and client requirements.</p> <p>Evaluate the design and optimised data model against client requirements.</p> <p>Learning aim C: Develop a data model to meet client requirements</p> <p>Develop a data model to meet client requirements.</p> <p>Test the data model for correctness, functionality and acceptance.</p> <p>Review the extent to which the data model meets client requirements.</p> <p>Optimise the data model to meet client requirements.</p>	<p>Learning aims: B and C (B.P3, B.P4, C.P5, C.P6, C.P7, B.M2, C.M3, BC.D2, BC.D3)</p>		

		Demonstrate individual responsibility, creativity, and effective selfmanagement in the design, development and review of a data model.			
Su1		Certification	June Re-sit		
Su2					

Curriculum and Skills Mapping Template

Subject: Computer Science Key Stage: 4 Year: 10

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	<p>Theory: Input and output devices</p> <p>Practical: Basic concepts of programming Pseudocode IF-THEN statement</p>	<p>Define I/O devices</p> <p>Describe the use cases for I/O devices</p> <p>Use the IDE to create simple programs</p> <p>Identify format of Pseudocode for various programming constructs</p> <p>Create programs using IF-THEN-ELSE</p>	<p>End of half-term test</p>	<p>Programming in VB.Net</p> <p>Research</p> <p>Reading comprehension</p> <p>Logical thinking</p>	<p>Resilience</p> <p>Readiness</p> <p>Resourcefulness</p>
Au2	<p>Theory: Number systems Character sets</p> <p>Practical: Logic operators CASE statements Subroutines Flow diagrams</p>	<p>Identify uses of binary in computers</p> <p>Convert between binary, denary, and hexadecimal systems</p> <p>Add binary numbers</p> <p>Perform a logical shift on binary numbers and describe their effect</p> <p>Identify different character sets and their usage</p>	<p>Number systems conversion test</p> <p>End of term test</p>	<p>Numeracy</p> <p>Programming technique</p> <p>Algorithmic thinking</p> <p>Logical thinking</p>	<p>Resilience</p> <p>Resourcefulness</p> <p>Readiness</p> <p>Remembering</p>

	For loops	<p>Apply two's complement to perform operations with negative numbers</p> <p>Use logic operators such as AND, OR and NOT in programming</p> <p>Create programs using CASE statements</p> <p>Create simple programs using subroutines</p> <p>Identify shapes used for different functions in flowcharts</p> <p>Identify shapes used in flowcharts</p>			
Sp1	<p>Theory: Data transmission</p> <p>Practical: Trace tables</p> <p>Iteration</p> <p>Arrays</p>	<p>Calculate sizes of image and sound files</p> <p>Distinguish between lossy and lossless data compression</p> <p>Identify methods of transmission, including simplex, duplex, half-duplex, serial and parallel</p> <p>Fill in trace tables to track variable values in each program</p> <p>Create programs using the WHILE and REPEAT-UNTIL loops</p> <p>Recall how to write arrays in Pseudocode</p> <p>Create, populate and perform operations on arrays</p>	<p>PowerPoint on data transmission</p> <p>Test on arrays</p>	<p>Numeracy</p> <p>Algorithmic thinking</p> <p>Programming technique</p> <p>Logical thinking</p>	<p>Remembering</p> <p>Resourcefulness</p> <p>Resilience</p>

		Create flowcharts to solve a problem			
Sp2	<p>Theory: Transmission security and linear search</p> <p>Practical: String handling File handling</p>	<p>Summarise error detection methods</p> <p>Identify or calculate parity bits</p> <p>Identify method of parity check used</p> <p>Calculate check digits using ISBN-13 and Modulo-11 methods</p> <p>Identify methods and functions for string operations</p> <p>Demonstrate string handling methods in VB.Net programs</p> <p>Define linear search method</p> <p>Re-write Pseudocode as program code for linear search program</p> <p>Read and write into text files</p> <p>Use arrays to read and write into text files</p>	Mock exams Paper 1 Paper 2	<p>Numeracy</p> <p>Programming technique</p> <p>Logical thinking</p>	<p>Resilience</p> <p>Readiness</p> <p>Resourcefulness</p> <p>Remembering</p>
Su1	<p>Theory: Data storage</p> <p>Practical: Verification and validation</p>	<p>Identify the three types of storage</p> <p>Explain uses of primary storage devices and how they function</p> <p>List secondary storage devices and explain modes of access</p>	Test on storage devices	<p>Recognise command words in Computer Science exam questions</p> <p>Programming technique</p>	<p>Resilience</p> <p>Readiness</p> <p>Resourcefulness</p> <p>Remembering</p>

		<p>Differentiate between verification and validation</p> <p>Identify methods of verification and validation</p> <p>Distinguish between different forms of test data, including abnormal, extreme and boundary data</p>		Logical thinking	
Su2	<p>Theory: Cloud storage</p> <p>Practical: 2D arrays</p> <p>Bubble sort</p>	<p>Define advantages and disadvantages of using cloud storage vs local storage</p> <p>Extend knowledge of arrays to create 2D arrays</p> <p>Write programs to perform bubble sort</p>	<p>Mock exams Paper 1 Paper 2</p>	<p>Programming technique</p> <p>Logical thinking</p>	<p>Reflectiveness</p> <p>Resourcefulness</p> <p>Resilience</p> <p>Readiness</p>

Curriculum and Skills Mapping Template

Subject : Computer Science Key Stage: 4 Year: 11

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	<p>Theory: Computer architecture</p> <p>Automated systems and sensors</p> <p>Practical: Databases</p>	<p>Identify components of the CPU</p> <p>List the steps of the Fetch-Decode-Execute cycle</p> <p>Describe the functions of cores, caches and clocks</p> <p>Explain how embedded systems are used in individual systems</p> <p>State the elements of a database</p> <p>Create SQL queries to obtain useful information from a database</p>	End of topic test	<p>Literacy</p> <p>Research</p> <p>Programming techniques</p>	<p>Resilience</p> <p>Resourcefulness</p> <p>Reasoning</p> <p>Readiness</p>
Au2	<p>Theory: Types of software</p> <p>Control systems</p> <p>Practical: Boolean logic</p>	<p>Differentiate between system software and application software</p> <p>Explain the functions of an operating system</p> <p>Recognise different causes of interrupts</p> <p>Summarise differences between compilers and interpreters</p>	<p>Mock exams Paper 1</p> <p>Paper 2</p>	<p>Literacy</p> <p>Research</p> <p>Programming techniques</p>	<p>Resilience</p> <p>Resourcefulness</p> <p>Reasoning</p> <p>Readiness</p>

		<p>Identify elements of the IDE (Integrated Development Environment)</p> <p>Define functions of standard logic gates</p> <p>Construct truth tables, logic expressions or logic circuits using one of the above</p>			
Sp1	<p>Theory: Internet and its features</p> <p>Cookies</p> <p>Cyber security</p> <p>Digital currency</p> <p>Practical: Programming practice</p>	<p>Explain details of how the Internet is accessed</p> <p>Differentiate between session and persistent cookies</p> <p>Identify types of threats and relative security systems for protection</p> <p>Explain digital currency and block chaining</p> <p>Recall programming syntax and use it appropriately to solve a given scenario</p>	<p>Presentation on each type of threat and the corresponding security measures</p>	<p>Literacy</p> <p>Research</p> <p>Programming techniques</p>	<p>Resilience</p> <p>Resourcefulness</p> <p>Readiness</p> <p>Reasoning</p> <p>Remembering</p>
Sp2	<p>Theory: Exam strategies</p> <p>Revision</p> <p>Practical: Programming practice</p>	<p>Identify command words used in exam questions and explain how to answer the question</p> <p>Breakdown a complex question into sub-systems</p> <p>Use current knowledge to answer past paper questions</p>	<p>Past paper questions practice</p>	<p>Time management</p> <p>Literacy</p> <p>Research</p> <p>Programming techniques</p>	<p>Resilience</p> <p>Resourcefulness</p> <p>Readiness</p> <p>Reasoning</p> <p>Remembering</p>
Su1					

Su2					
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Curriculum and Skills Mapping Template

Subject : Computer Science Key Stage: 5 Year: 12

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au1	Fundamentals of programming	Understanding of programming basics and concepts Recall basic operators in programming languages To know subroutines, local and global variables To identify object-orientated programming concepts	Sample file and work tasks	Solve computable problems	Resilience Reflectiveness Relationships
Au2	Fundamentals of data structures	To identify data structures and abstract data types To know the purpose of queues and stacks To create graphs and trees To draw hast tables and dictionaries	Practice Questions		
Sp1	Fundamentals of algorithms	To know graph and tree traversal To define Dijkstra's shortest path algorithm To know the algorithms binary, binary tree and linear search	Practice Questions		
Sp2	Fundamentals of computational thinking	To know abstraction and automation TO define Finite state machines To recall the Turing machine To use regular and context-free languages To use Maths for regular expressions To define the Big O notation and can classify algorithms			
Su1	Coursework Introduction	Practice Questions for	Practice Questions		

Su2	Fundamentals of data representation	Number Systems Number bases The binary number system Coding Systems To know encryption	Practice Questions		
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Curriculum and Skills Mapping Template

Subject : Computer Science Key Stage: 5 Year: 13

Term	Topic	Objectives	Assessment	Academic Skills	Personal Skills
Au 1	Fundamentals of computer systems, computer organisation and architecture	To identify hardware and software and Boolean algebra To understand logic gates To be able to classify programming languages	Past Questions	Understanding of Computer Science	Resilience
Au2	Consequences of computing & Fundamentals of communication and networking	To know the internal and external hardware of a computer To use processor instruction set and addressing modes To understand the communication basics, networks and the Internet To identify the TCP/IP protocols To set up client-server model	External Coursework Past Questions		Transferable skills in software Autonomy
Sp1	Fundamentals of databases	To create relational databases To use SQL and big data	Past Questions		
Sp2	Fundamentals of functional programming and Software development	To apply the basics of functional programming To know aspects of software development	Past Questions		

Su1	Study Leave				
Su2	Study Leave				