Computing - Year 7

AUTUMN 1

		PRIOR LEARNING
Fundamentals of Computing: Introduction and Expectations Fundamentals of Computing: Digital Literacy Skills	Fundamentals of Computing: Microsoft Word and PowerPoint (with E-Safety) Fundamentals of Computing: What is a Computer?	Digital Literacy, E-Safety, use of Microsoft Windows, use of Microsoft Office

AUTUMN 2

Fundamentals of Computing: Input and Output Devices Fundamentals of Computing: Types of Software	Fundamentals of Computing: Computational Thinking Yr7 Computing Summative Assessment 1	

Summative Assessment 1

40-mark multiple choice questions on the topics of Digital Literacy, Fundamentals of Computing, E-Safety, Microsoft Office

SPRING 1

		PRIOR LEARNING
Summative Assessment Feedback Scratch Programming: Variables, Input and Output	Scratch Programming: Selection (If Statements)	Digital Literacy, Fundamentals of Computing

SPRING 2

Scratch Programming: Iteration (For Loops and While Loops) Scratch Programming: Problem Solving Skills	Data Representation: Binary Conversion	Digital Literacy, Fundamentals of Computing

Summative Assessment 2

40-mark multiple choice questions on the topics of Computational Thinking, Scratch, Data Representation, Digital Literacy, Fundamentals of Computing

SUMMER 1

	PRIOR LEARNING
Data Representation: Binary Addition Data Representation: Character Sets	Digital Literacy, Fundamentals of Computing

SUMMER 2

Yr7 Computing Summative Assessment 2 Summative Assessment Feedback	Data Representation: Images Data Representation: Logic Gates	Digital Literacy, Fundamentals of Computing

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Computing - Year 8

AUTUMN I

Introduction and Digital Literacy Skills Cyber Security: Threats & Prevention	Cyber Security: Encryption ELCE : Moral and Ethical Issues in Computing	**PRIOR LEARNING** Digital Literacy, Fundamentals of Computing, Data Representation

AUTUMN 2

ELCE: Environmental and Legal Issues in Computing Emerging Technologies: AR, VR, AI	Yr8 Computing Summative Assessment Summative Assessment Feedback	Digital Literacy, Fundamentals of Computing, Data Representation

SPRING I

HTML: Head, Body, Text HTML: Images HTML: Hyperlinks	**PRIOR LEARNING** Digital Literacy, Scratch Programming

SPRING 2

HTML: Tables Hardware: Central Processing Unit Hardware: RAM and ROM	Digital Literacy, Scratch Programming

SUMMER I

Hardware : Secondary Storage and Cloud Yr8 Computing Summative Assessment 2	**PRIOR LEARNING** Digital Literacy, Scratch Programming

SUMMER 2

Summative Assessment Feedback Hardware: Secondary Storage Characteristics	Algorithmic Thinking Algorithmic Thinking	Digital Literacy, Scratch Programming, HTML

Summative Assessment 1

40-mark multiple choice questions on the topics of Cyber Security, ELCE, Emerging Technologies, Fundamentals of Computing, Data Representation

Summative Assessment 2

40-mark multiple choice questions on the topics of HTML Web Development, Hardware, Scratch Programming, Digital Literacy

Computing - Year 9

AUTUMN 1

Introduction and Digital Literacy Skills
Python: Variables, Input, Output

Python: Count-Controlled Iteration (For Loops)
Python: Condition Controlled Iteration (While Loops)

PRIOR LEARNING

Digital Literacy, Cyber Security, ELCE, HTML

AUTUMN 2

Python: Lists
Yr9 Computing Summative Assessment 1

Summative Assessment Feedback
Python: Problem Solving

Digital Literacy, Cyber Security, ELCE, HTML

Summative Assessment 1

40-mark multiple choice questions on the topics of Python Programming, Cyber Security, ELCE, HTML Web Development

SPRING 1

Networks: Types of Networks
Networks: Network Hardware

Networks: Topologies

PRIOR LEARNING

Digital Literacy, Hardware, Fundamentals of Computing

SPRING 2

Networks: Packet Switching
Networks: The Internet

Productivity Skills in IT: Word Processing

Digital Literacy, Hardware, Fundamentals of Computing

Summative Assessment 2

40-mark multiple choice questions on the topics of Digital Literacy, Fundamentals of Networks, IT Productivity Skills, Hardware, Fundamentals of Computing

SUMMER 1

Yr9 Computing Summative Assessment 2
Summative Assessment Feedback

PRIOR LEARNING

Digital Literacy, Hardware, Fundamentals of Computing

SUMMER 2

Productivity Skills in IT: Spreadsheet Modelling
Productivity Skills in IT: Presenting Information

Productivity Skills in IT: Email Communication
Productivity Skills in IT: Image Editing (With E-Safety)

Digital Literacy, Hardware, Fundamentals of Computing

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GCSE Computer Science - Year 10

AUTUMN I

			PRIOR LEARNING
Primary Storage (Memory) Architecture of the CPU CPU Performance	Embedded Systems Variables and Constants Input and Output	Operators Selection	Hardware, Computational Thinking, Scratch Programming, Python Programming

AUTUMN 2

Embedded Systems Secondary Storage Selection	Count Controlled Iteration Condition Controlled Iteration	Hardware, Computational Thinking, Scratch Programming, Python Programming

SPRING I

		PRIOR LEARNING
Units Data Storage Pseudocode and Flowcharts	One-Dimensional Lists Two-Dimensional Lists	Data Representation, Computational Thinking, Python Programming

SPRING 2

Data Storage Compression Dictionaries	Sub-Programs - Defining and Calling Sub-Programs - Parameter Passing	Data Representation, Computational Thinking, Python Programming

SUMMER I

	PRIOR LEARNING
Networks and Topologies Sub-Programs - Return Values Problem Solving Programming	Networks,, Computational Thinking, Python Programming

SUMMER 2

Networks and Topologies Independent Programmng Problem Solving Programming	Networks,, Computational Thinking, Python Programming

Summative Assessment 1

2 x 40-mark summative assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

Summative Assessment 2

2 x 60-mark Yr10 PPE Assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

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GCSE Computer Science - Year 11

AUTUMN 1

Threats to Computer Systems and Networks
Identifying and Preventing Vulnerabilities

Computational Thinking
Designing, Creating and Refining Algorithms

PRIOR LEARNING

Cyber Security, Computational Thinking, Python Programming

AUTUMN 2

Identifying and Preventing Vulnerabilities
Searching and Sorting Algorithms

PRIOR LEARNING

Cyber Security, Computational Thinking, Python Programming

Summative Assessment 1

2 x 80-mark Yr10 PPE Assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

SPRING 1

Operating Systems
Utility Software

File Handling Operations
Random Number Generation

PRIOR LEARNING

Fundamentals of Computing, Computational Thinking, Python Programming

SPRING 2

Ethical, Legal, Cultural and Environmental Impact (ELCE)
Boolean Logic

Tools and Facilities of an IDE
Types of Languages and Translators
Structured Query Language

Defensive Design
Testing

PRIOR LEARNING

ELCE, Data Representation, Computational Thinking, Python Programming

Summative Assessment 2

2 x 40-mark summative assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

SUMMER 1

GCSE Revision and Preparation

PRIOR LEARNING

SUMMER 2

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BTEC Information Technology - Year 12

AUTUMN I

Unit 3 - What is Social Media (SM)?
Unit 3 - Features of SM Platforms
Unit 3- Demographics of SM Platforms
Unit 3 - Ways Businesses use SM

Unit 3 - Features of SM tailored to Business Needs
Unit 3 - Audience Profiles of SM Platforms
Unit 2 - Tables, Fields, Records
Unit 2 - Primary Keys and Composite Primary Keys

Unit 2 - Data Types
Unit 2 - Entity Relationships and Foreign Keys
Unit 2 - Validation

PRIOR LEARNING

AUTUMN 2

Unit 3 - Ways a Business Can Use SM to Attract Target Audience
Unit 3 - Evaluating Business Use of SM
Unit 3 - Finalising for Assignment 1 Submission

Unit 2 - Queries
Unit 2 - Reports

Summative Assessment 1

Unit 2 - Creating Systems to Manage Information (5hr on-screen exam)

SPRING I

Unit 3 - Identifying Business Requirements
Unit 3 - Success Criteria
Unit 3 - Timescales and Responsibilities

Unit 3 - Content Planning
Unit 3 - SM Policy
Unit 3 - Keyword Strategy

Unit 2 - Part A Testing
Unit 2 - Part A Evaluation

PRIOR LEARNING

SPRING 2

Unit 3 - Launching SM Campaign
Unit 3 - Running SM Campaign
Unit 3 - Data Gathering and Analysis

Unit 3 - Evaluation
Unit 2 - Basic Forms
Unit 2 - Advanced Forms

Unit 2 - Part B Testing
Unit 2 - Part B Evaluation

Summative Assessment 2

Unit 3 Assignment 1 (Evaluating the use of social media in Business), Unit 3 Assignment 2 (Development and Implementation of Social Media for a Business)

SUMMER I

Unit 3 - Finalising for Assignment 1 Submission
Unit 2 - Preparation for on-screen assessment
Unit 1 - A1 Digital devices, their functions and use

PRIOR LEARNING

SUMMER 2

Unit 1 - A2 Peripheral devices and media
Unit 1 - A3 Computer software in an IT system

BTEC Information Technology - Year 13

AUTUMN I

Unit 1 - A3 Computer software in an IT system
Unit 1 - A4 Emerging Technologies
Unit 1 - A5 Choosing IT Systems

Unit 1 - B1 Connectivity
Unit 1 - B2 Networks

Unit 1 - B3 Issues Relating to Transmission of Data
Unit 1 - C1 Online Systems

PRIOR LEARNING

AUTUMN 2

Unit 1 - C2 Online Communities
Unit 1 - D1 Threats to Data, Informtation and Systems
Unit 1 - A5 Choosing IT Systems

Unit 1 - D2 Protecting Data
Unit 1 - E1 Online Services
Unit 1 - E2 Impact and Organisations

Unit 1 - E3 Using and Manipulating Data
Unit 1 - F1 Moral and Ethical Issues
Unit 1 - F2 Legal Issues

SPRING I

Unit 1 - Written Exam Preparation
Unit 6 - Principles of Web Design
Unit 6 - Media and Objects
Unit 6 - SEO and Audience

Unit 6 - Factors that Affect Website Performance
Unit 6 - HTML Introduction
Unit 6 - HTML Images

Unit 6 - HTML Images
Unit 2 - Part A Evaluation

PRIOR LEARNING

SPRING 2

Unit 6 - Finalising for Assignment 1 Submission
Unit 6 - CSS Formatting
Unit 6 - CSS Layouts

Unit 6 -CSS Navigation
Unit 6 - JavaScript Forms

Unit 6 - Web Development Documentation-
Unit 6 - Web Development Testing

SUMMER I

Unit 6 - Web Development Evaluation
Unit 6 - Finalising for Assignment 2 Submission

PRIOR LEARNING

SUMMER 2

Unit 1 - A2 Peripheral devices and media
Unit 1 - A3 Computer software in an IT system

Summative Assessment 1

Unit 1 - Information Technology Systems (2hr written exam)

Summative Assessment 2

Unit 6 Assignment 1 (Understand the Principles of Website Development), Unit 6 Assignment 2 (Design and Develop a Website)

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Computer Science A Level - Year 12

AUTUMN I

			PRIOR LEARNING
Structure and Function of the Processor Types of Processor Input, Output and Storage	Elements of Computational Thinking Structured Programming Selection	Number Data Types String Data Types	Hardware, Computational Thinking, Python Programming

AUTUMN 2

		PRIOR LEARNING
Systems SoftwareTOPIC Applications Generation Elements of Computational Thinking	Count Controlled Iteration Condition Controlled Iteration	Fundamentals of Computing, Computational Thinking, Python Programming

SPRING I

		PRIOR LEARNING
Databases Arrays and Lists	Serial Files Extended Programming Tasks	Computational Thinking, Python Programming

SPRING 2

			PRIOR LEARNING
Databases Data Types Features of an IDE	Local and Global Variables Pass by Reference vs Pass by Value	Modularity Computational Methods	Computational Thinking, Python Programming

SUMMER I

	PRIOR LEARNING
Data Types Use of Object Oriented Techniques	Computational Thinking, Python Programming

SUMMER 2

	PRIOR LEARNING
Data Structures - Stacks and Queues Theory Data Structures - Coding Stacks and Queues NEA Analysis	Computational Thinking, Python Programming

Summative Assessment 1

2 x 50-mark summative assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

Summative Assessment 2

2 x 100-mark Yr12 PPE Assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

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Computer Science A Level - Year 13

AUTUMN 1

Networks
Use of Object Oriented Techniques
NEA Analysis

PRIOR LEARNING

Networks, Computational Thinking, Python Programming

AUTUMN 2

Use of Object Oriented Techniques
Recursion
Data Structures Theory

Coding Data Structures
NEA Design and Development

Computational Thinking, Python Programming

SPRING 1

Software Development Methodologies
Compression, Encryption and Hashing
Types of Programming Languages

Little Man Computer
NEA Design and Development

PRIOR LEARNING

Data Representation, Computational Thinking, Python Programming

SPRING 2

Searching / Sorting Algorithms Theory
Coding Searching / Sorting Algorithms
NEA Testing and Evaluation

Searching/Sorting Algorithms, Computational Thinking, Python Programming

SUMMER 1

Boolean Algebra
Shortest Path Algorithms
Moral and Ethical Issues

HTML/CSS/JavaScript
Web Technologies

PRIOR LEARNING

Data Representation, Boolean Logic, HTML Web Development

SUMMER 2

Data Structures - Stacks and Queues Theory
Data Structures - Coding Stacks and Queues
NEA Analysis

Computational Thinking, Python Programming

Summative Assessment 1

2 x 140-mark Yr13 PPE Assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.

Summative Assessment 2

2 x 140-mark Yr13 Summative Assessments (Paper 1 and Paper 2) consisting of past paper questions from a range of topic areas that have been studied up to this point.