



The Ridgeway School & Sixth Form College

...Inspiring Learners For Their Future

*'Our shared vision is that our students, colleagues and families will be part of a **FAIR** community.'*

*We will support our school **Family** to **Achieve** their potential, and **Inspire** students to **Reach** the very best destinations.'*



Computer Science Curriculum Overview

RESPECT | HONESTY | ENDEAVOUR | CREATIVITY | COMMUNITY

Year 7 Computer Science Curriculum Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	<ul style="list-style-type: none"> • E-Safety and the Internet • Cyberbullying Prevention and protection 	<ul style="list-style-type: none"> • Basic and Advanced Formulae • Charts and Absolute Cell Referencing 	<ul style="list-style-type: none"> • Initial Programming Concepts • Using Variables 	<ul style="list-style-type: none"> • Software and Hardware • Microbit Makecode Programming 	<ul style="list-style-type: none"> • Selection, Sequential and Iteration • Conditions and Branching 	<ul style="list-style-type: none"> • Control and Modelling • Input/Output and Computer Hardware

Year 8 Computer Science Curriculum Overview

	• Term 1	• Term 2	• Term 3	• Term 4	• Term 5	• Term 6
Year 8	<ul style="list-style-type: none"> • Online Safety • Backup and Archiving • Computer Legislations 	<ul style="list-style-type: none"> • Advanced Formulae • Conditional Formatting 	<ul style="list-style-type: none"> • Data Representation • Boolean Logic and Logic Gates 	<ul style="list-style-type: none"> • Programming Conditions • Loops and Functions 	<ul style="list-style-type: none"> • Website Design Constructs • Photo Manipulation 	<ul style="list-style-type: none"> • Cybersecurity and Threats • Cryptography and Problem Solving

Year 9 Computer Science Curriculum Overview

	• Term 1	• Term 2	• Term 3	• Term 4	• Term 5	• Term 6
Year 9	<ul style="list-style-type: none"> • Computational Thinking • Algorithms and Logical Thinking • Abstraction and Decomposition 	<ul style="list-style-type: none"> • Computer Architecture • Memory and Storage 	<ul style="list-style-type: none"> • Advanced Programming Concepts • Lists and Arrays 	<ul style="list-style-type: none"> • Networks and the Internet • Protocols and Standards • Cyber Attacks and Networking Threats 	<ul style="list-style-type: none"> • Database and Relational Tables • Validation and Data Entry Forms • Searching, Filters and Queries 	<ul style="list-style-type: none"> • House Style and Marketing • Promotional Items and Business Documents

Year 10 Computer Science Curriculum Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 10	<ul style="list-style-type: none"> • The Purpose of the CPU and its Components • CPU Performance and Fetch, Decode and Execute 	<ul style="list-style-type: none"> • Embedded Systems • Primary Memory and Secondary Storage • Data Storage: Numbers, Images and Sound 	<ul style="list-style-type: none"> • Network Types and Performance Factors • Network Hardware and Topologies • Protocols and the Concept of Layers 	<ul style="list-style-type: none"> • Network Security • Purpose of System and Utility Software • Ethical, Cultural, Environmental Concepts 	<ul style="list-style-type: none"> • Algorithms and Logical Thinking • Abstraction and Decomposition • Design with Flowcharts and Pseudo Code 	<ul style="list-style-type: none"> • Errors and Trace Tables • Searching and Sorting Algorithms

Year 11 Computer Science Curriculum Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 11	<ul style="list-style-type: none"> • Programming Techniques and Project • Selection, Sequential and Iteration • Variables, Loops and Functions • Lists and Arrays • File Handling 	<ul style="list-style-type: none"> • Programming Techniques and Project • Selection, Sequential and Iteration • Variables, Loops and Functions • Lists and Arrays • File Handling 	<ul style="list-style-type: none"> • Defensive Design, Authentication and Validation • Checking and Maintainability • Testing, Logic and Syntax Errors 	<ul style="list-style-type: none"> • Boolean Logic and Logic Gates • High Level and Low Languages • Integrated Development Environment 	<ul style="list-style-type: none"> • Revision Based Work 	<ul style="list-style-type: none"> • Revision Based Work

Sixth Form Computer Science Curriculum Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 12	<ul style="list-style-type: none"> • Processor Components and Performance • Input, Output and Storage Devices • Thinking Abstractly and Procedurally 	<ul style="list-style-type: none"> • Operating System Functions and Types • Programming Language Translators • Thinking Logically and Pattern Recognition 	<ul style="list-style-type: none"> • System Analysis Methods • Programming Paradigms • Programming Techniques and Object Oriented 	<ul style="list-style-type: none"> • Compression and Encryption • Database Concepts and Normalisation • Programming Techniques and Object Oriented 	<ul style="list-style-type: none"> • Internet Communications • Network Security and Threats • Programming Techniques and Object Oriented 	<ul style="list-style-type: none"> • Data Types, Binary and Hexadecimal • Floating Point and Bitwise Manipulation • Programming Techniques and Object Oriented
Year 13	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	<ul style="list-style-type: none"> • Data Structures • Hash Tables, Graphs and Trees • Programming Project 	<ul style="list-style-type: none"> • Boolean Algebra and Logic Gates • Programming Project 	<ul style="list-style-type: none"> • Computing Related Legislations • Ethical, Moral and Cultural Issues • Searching and Sorting Algorithms 	<ul style="list-style-type: none"> • Backup and Archiving • Logical thinking and Algorithms 	<ul style="list-style-type: none"> • Revision Based Work 	<ul style="list-style-type: none"> • Revision Based Work

