

Curriculum Intent: The Computer Science Department offers a broad curriculum that does the following:

- Explore how Computer Science has an impact on our day-to-day world.
- Understand how Computer Science has grown and developed to be the industry of the future.
- Develop skills in Computer Science to allow access to a broad range of careers.

Our aim is to create inquisitive and critical computer literate students who are able to navigate and understand the power and impact that Computing has on the modern world. We seek to empower students to interpret the code, programs and hardware and understand how these are constructed. We offer pupils a curriculum which is tailored to GCSE success while consistently using modern contemporary resources which are relevant to their lives.

We expose students to a range of wider cultural and technical knowledge from Computing industries including Architecture, Networks, Programming (Python) and the Ethics in Computing.

<b>Year 9</b>	<b>Term 3</b>
	Module 6 [9 lessons] <b>GCSE Computer Science Starter: Introduction to Computer Science and The CPU</b>
Content	<ol style="list-style-type: none"> <li>1. Introduction to Computer Science</li> <li>2. System Architecture</li> <li>3. Architecture of the CPU</li> <li>4. Embedded Systems</li> <li>5. Von Neumann</li> <li>6. Components and function</li> <li>7. CPU Performance</li> </ol>
Feedback Points	End of unit assessment.
Key Questions	<ol style="list-style-type: none"> <li>1. What is Computer Science?</li> <li>2. What is the purpose of the CPU?</li> <li>3. How does the architecture of the CPU effect performance?</li> <li>4. How do the components work together in the CPU?</li> </ol>
Direct Vocab Instruction	Purpose, Embedded, Characteristics.
Standardised Homework	Lesson 3 Research Task – How has the CPU evolved? Lesson 6 – Revision Task: Build a PC for £1500



(Not the current 2023 – 2024 year 11 class)

Year 11 (Not the current 2023 – 2024 class)	Term 1		Term 2		Term 3	
	Module 1 [9 lessons] Ethical, legal, cultural and environmental impacts of digital technology.	Module 2 [10 lessons] Boolean Logic	Module 3 [9 lessons] Programming languages and IDEs	Module 4 [9 lessons] 20 Hours Practical Programming	Module 5 [9 lessons] GCSE Computer Science Rev	Module 6 GCSE Computer Science Revision Unit 1/2 focus
Content	1. Ethical issues 2. Legal issues 3. Cultural issues 4. Environmental impact	1. Boolean logic	1. Languages 2. The integrated development environment (IDE)	1. Python Programming 2. Plan, Develop, Test, Refine.	Revision sessions focusing on all units.	Exams
Feedback Points	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.		
Key Questions	1. What are the ethical issues surrounding Computer Science? 2. What are the legal issues and how are they policed? 3. How does society react to issues with AI? 4. What impact does Computer Science have on the environment and how can we protect it? 5.	1. How do logic gates work? 2. Difference between AND OR NOT? 3. Explain why data needs to be in binary.	1. What are the different generations of programming language? 2. What are the differences between high-level and low-level languages. 3. Which transistor is needed and why? 4. What are the benefits of programming at high and low level?	1. How do we use it create programs? 2. How do the different commands work? 3. How do we debug the programmes? 4. What uses do we have for the program?		
Direct Vocab Instruction	Principles, digital technology, ethics, moral.	Logic gates, Transistor, Bit, Logic circuit. Truth tables.	1 <sup>st</sup> generation, High Level, Low-level, device driver, debug.	Asset. Import, false, #, while, True.		
Standardised Homework	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.		

(The current 2023 – 2024 year 11 class)

	Term 1		Term 2		Term 3	
<b>Year 11</b> (The current 2023 – 2024 class)	<b>Module 1</b> [9 lessons] <b>Producing Robust programs</b>	<b>Module 2</b> [13 lessons] <b>Programming Fundamentals &amp; Boolean Logic (this will)</b>	<b>Module 3</b> [6 lessons] <b>Boolean Logic (Continued) Programming Languages and IDEs</b>	<b>Module 4</b> [9 lessons] 20 Hours <b>Practical Programming</b>	<b>Module 5</b> [9 lessons] <b>GCSE Computer Science Revision Unit 1/2 focus</b>	<b>Module 5</b> <b>GCSE Computer Science Revision Unit 1/2 focus</b>
Content	1. Defensive Design 2. Testing	1. Programming fundamentals 2. Data types 3. Additional programming techniques 4. Boolean logic	1. Boolean logic 2. Languages 3. The integrated development environment (IDE)	1. Python Programming 2. Plan, Develop, Test, Refine.	Revision sessions focusing on all units.	Exams
Feedback Points	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.	Mid unit and end of unit assessment.		
Key Questions	4. How can we create programs to protect us? 5. How do they protect us? 6. How can we test these programs?	1. How do we use Python to program? 2. What sort of data can it use? 3. What can we achieve with this software? 4. How do logic gates work? 5. Difference between AND OR NOT? 6. Explain why data needs to be in binary.	1. What are the different generations of programming language? 2. What are the differences between high-level and low-level languages. 3. The purpose of translators. 4. What are the benefits of programming at high and low level? 5. How do logic gates work? 6. Difference between AND OR NOT? 7. Explain why data needs to be in binary.	1. How do we use it create programs? 2. How do the different commands work? 3. How do we debug the programmes? 4. What uses do we have for the program?		
Direct Vocab Instruction	Sub program, procedure, function, maintainability.	Logic gates, Transistor, Bit, Logic circuit. Truth tables.	1 <sup>st</sup> generation, High Level, Low-level, device driver, debug.	Asset. Import, false, #, while, True.		
Standardised Homework	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.	Teams based homework based on lesson structure.		