

Long Term Departmental Planning Overview

Subject: **Computer Science**

Intention:

When planning and teaching computer science, we believe that it is an essential part of the curriculum; a subject that not only stands alone but is woven and should be an integral part of all learning. Our high-quality computing curriculum is designed to enable pupils to use computational thinking, supported by literacy and numeracy skills, and creativity to further understand our world. Our curriculum design has deep links with mathematics, science, and design and technology.

Through the study of Computing, pupils will be able to develop a wide range of fundamental skills, knowledge and understanding that will actually equip them for the rest of their life. Computers and technology are such an important part of everyday life that our pupils would be at a disadvantage would they not be exposed to a thorough and robust Computing curriculum at KS3 and subsequently KS4. Appropriate subject specific knowledge will be developed with the skills and understanding as set out in the National Curriculum and beyond. At the core of our computing curriculum, pupils are taught the principles of computational thinking, computing systems and algorithms and programming.

To provide opportunities for all pupils to develop a high level of computational thinking, supported by literacy and numeracy skills required for success in adult life.

Year	Curriculum Title	HT1 topics	HT2 topics	HT3 topics	HT4 topics	HT5 topics	HT6 topics
7	HT1 – HT4: Computer Systems – Component 1. HT5 – HT6: Algorithms and Programming – Component 2.	GCSE Unit: 0/Unit 1 - Introduction to the school network and systems. GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety – 1 lesson. Assessment: Extended Writing Task GCSE Unit: 4/Unit 2 – Data Representation	GCSE Unit: 4/Unit 2 – Data Representation – Assessment: Data Representation End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response) GCSE Unit: 7/Unit 3 – Components of a Computer System.	GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety- Assessment: Extended Writing Task GCSE Unit: 7/Unit 3 – Components of a Computer System.	GCSE Unit: 2/Unit 4 – Networking – Assessment: Networking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)	GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety – 1 lesson. Assessment: Extended Writing Task GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment: Computational Thinking Mid Term Assessment -Feedback Lesson (Pupil/Teacher Response)	GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment: Computational Thinking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)

8	<p>HT1 – HT4: Computer Systems – Component 1.</p> <p>HT5 – HT6: Algorithms and Programming – Component 2.</p>	<p>GCSE Unit: 0/Unit 1 - Reintroduction to the school network and systems.</p> <p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety – 1 lesson. Assessment: Extended Writing Task</p> <p>GCSE Unit: 4/Unit 2 – Data Representation</p>	<p>GCSE Unit: 4/Unit 2 – Data Representation Assessment: Data Representation End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p> <p>GCSE Unit: 7/Unit 3 – Components of a Computer System.</p>	<p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety Assessment: Extended Writing Task</p> <p>GCSE Unit: 7/Unit 3 – Components of a Computer System.</p>	<p>GCSE Unit: 2/Unit 4 – Networking Assessment: Networking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p>	<p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety. Assessment: Extended Writing Task</p> <p>GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment: Computational Thinking Mid Term Assessment -Feedback Lesson (Pupil/Teacher Response)</p>	<p>GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment: Computational Thinking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p>
9	<p>HT1 – HT4: Computer Systems – Component 1.</p> <p>HT5 – HT6: Algorithms and Programming – Component 2.</p>	<p>GCSE Unit: 0/Unit 1 - Reintroduction to the school network and systems.</p> <p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety – 1 lesson. Assessment: Extended Writing Task</p> <p>GCSE Unit: 4/Unit 2 – Storing Data and Data Representation</p>	<p>GCSE Unit: 4/Unit 2 – Data Representation– 4 lessons. Assessment: Data Representation End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p> <p>GCSE Unit: 7/Unit 3 – Components of a Computer System.</p>	<p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety- 1 lesson Assessment: Extended Writing Task</p> <p>GCSE Unit: 7/Unit 3 – Components of a Computer System.</p>	<p>GCSE Unit: 2/Unit 4 – Networking Assessment: Networking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p>	<p>GCSE Unit: 3/Unit 6 - Ethical & Legal Issues. Inc. E-Safety. Assessment: Extended Writing Task</p> <p>GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment:</p>	<p>GCSE Unit: 4/ Unit 5 – Computation Thinking (Algorithms and Programming) Assessment: Computational Thinking End of Unit Assessment -Feedback Lesson (Pupil/Teacher Response)</p>

						Computational Thinking Mid Term Assessment -Feedback Lesson (Pupil/Teacher Response)	
10	Exam board: OCR GCSE (9-1) Computer Science: Yr10 - Paper 1: Computer Systems. Yr11 - Paper 2: Algorithms and Programming	<p><u>The Menagerie</u> – Introduction to Computational Thinking.</p> <p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 1: Unit 1 – Components of Computer System. Assessment: End of Unit Assessment</p>	<p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 1: Unit 2 – Networks. Assessment: End of Unit Assessment</p>	<p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 1: Unit 2 – Networking. Assessment: End of Unit Assessment</p>	<p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 1: Unit 2 – Network Protocols. Assessment: End of Unit Assessment</p>	<p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 2: Unit 7 - Computational Thinking – Data Representation. Assessment: End of Unit Assessment</p>	<p><u>Yr10 – Computer Systems – Paper 1 Theory.</u></p> <p>Component 1: Unit 3 – Ethical and Legal Issues. Assessment: Extended Writing Questions</p>
11		<p><u>Yr11 – Algorithms and Programming ...</u></p> <p>Mini Project.</p> <p>Component 2: Unit 4 – Algorithms and Programming. Assessment: End of Unit Assessment</p>	<p><u>Yr11 – Algorithms and Programming ...</u></p> <p>Component 2: Unit 4 – Algorithms and Programming – Continued. Assessment: End of Unit Assessment</p> <p>NEA – Controlled Assessment</p> <p>Mock Exam.</p>	<p><u>Yr11 – Algorithms and Programming</u></p> <p>NEA – Controlled Assessment Practice Paper 1 – Revision</p>	<p><u>Yr11 – Algorithms and Programming</u></p> <p>Practice Paper 2 – Revision Practice Paper 2 – Revision</p> <p>Mock Exam.</p>	<p><u>Yr11 – Algorithms and Programming</u></p> <p>Practice Paper 1 and 2 General Revision. Exam Date: May NEA Submission: May</p>	

12	<p><i>Exam board: OCR GCE AS/A2 Computer Science: Paper 1: Computer Systems Paper 2: Algorithms and Programming</i></p>	<p><u>Yr12 – Computer Systems.</u></p> <p>1.1.1 Structure and function of the processor 1.1.2 Types of processor 1.1.3 Input, output and storage</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p>	<p><u>Yr12 – Computer Systems.</u></p> <p>1.2.4 Types of Programming Language 1.3.1 Compression, Encryption and Hashing 1.2.2 Applications Generation 1.4.1 Data Types 1.4.3 Boolean Algebra</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p> <p>Mock Exam.</p>	<p><u>Yr12 – Computer Systems.</u></p> <p>1.2.4 Types of Programming Language Continued/ Scattered throughout. 1.4.3 Boolean Algebra</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p>	<p><u>Yr12 – Computer Systems.</u></p> <p>1.2.4 Types of Programming Language Continued/ Scattered throughout. 1.4.2 Data Structures 1.2.3 Software Development</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p> <p>Mock Exam.</p>	<p><u>Yr12 – Computer Systems.</u></p> <p>1.2.4 Types of Programming Language Continued/ Scattered throughout. 1.4.2 Data Structures 2.3.1 Algorithms 1.2.3 Software Development</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p>	<p><u>Yr12 – Computer Systems.</u></p> <p>Introduction to the Project 2.3.1 Algorithms 1.3.2 Databases</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p>
13		<p><u>Yr13 – Algorithms and Programming.</u></p> <p>1.3.2 Databases 2.2.1 Programming techniques 2.2.2 Computational methods</p> <p>Assessment: End of Unit Assessment/ Practical Summative Assessment when necessary.</p>	<p><u>Yr13 – Algorithms and Programming.</u></p> <p>1.3.3 Networks 2.2.1 Programming techniques 2.2.2 Computational methods</p> <p>Assessment: End of Unit Assessment/ Practical Summative</p>	<p><u>Yr13 – Algorithms and Programming.</u></p> <p>1.3.4 Web Technologies</p> <p>Assessment: End of Unit Assessment/ Practical Summative</p>	<p><u>Yr13 – Algorithms and Programming.</u></p> <p>Project/ Lesson Catch-up Sessions/ Revision.</p> <p>Assessment: End of Unit Assessment/</p>	<p><u>Yr13 – Algorithms and Programming.</u></p> <p>Practice Paper 1/ Practice Paper 2 – Walk through. Revision Catch up. 1:1 Project Support Sessions.</p>	<p>Exam Date: June (2 Papers)</p>

			Assessment when necessary. <u>Mock Exam.</u>	Assessment when necessary.	Practical Summative Assessment when necessary. <u>Mock Exam.</u>	<u>Project Submission:</u> May	
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