

# KS4 Curriculum Overview 2023/24

## Department: ICT & Business - GCSE Computer Science

### Description of KS4 Curriculum:

GCSE Computer Science is engaging and practical, encouraging creativity and problem solving. The course will encourage students to develop their understanding and application of the core concepts in computer science. Students will also analyse problems in computational terms and devise creative solutions by designing, writing, testing and evaluating programs.

Within Component 1, Computer Systems, students will investigate systems architecture, network security and software. They will also consider the ethical, legal, cultural and environmental impacts of digital technology.

Component 2, Computational Thinking, Algorithms and Programming, allows students to develop their programming skills as they investigate algorithms, programming fundamentals and various programming languages such as Python.

There are two examinations for the course, each is 1 hour and 30 minutes long and worth 50% of the final grade awarded. The examination papers include multiple choice questions, short response questions and extended responses requiring a student to apply their knowledge to various scenarios.

This course will equip students with the knowledge and skills to allow them to successfully progress to study A Level Computer Science in the Sixth Form.

### Sequence of Learning:

KS4	Term 1 Content	Term 2 Content	Term 3 Content
<b>Year 10</b>	<p><b>Component 1:</b></p> <ul style="list-style-type: none"> <li>1.1 Systems Architecture</li> <li>1.2 Memory</li> <li>1.3 Storage</li> <li>1.4 Wired and Wireless Networks</li> <li>1.5 Network Topologies, Protocols and Layers</li> </ul> <p><b>Component 2:</b></p> <ul style="list-style-type: none"> <li>2.1 Algorithms</li> <li>2.2 Programming Techniques</li> </ul>	<p><b>Component 1:</b></p> <ul style="list-style-type: none"> <li>1.6 System Security</li> <li>1.7 System Software</li> <li>1.8 Issues</li> </ul> <p><b>Component 2:</b></p> <ul style="list-style-type: none"> <li>2.2 Programming Techniques</li> </ul>	<p><b>Component 2:</b></p> <ul style="list-style-type: none"> <li>2.2 Programming Techniques</li> <li>2.3 Producing Robust Programs</li> <li>2.4 Computational Logic</li> <li>2.5 Translators and Facilities of Languages</li> </ul>
<b>Year 11</b>	<p><b>Component 2:</b></p> <ul style="list-style-type: none"> <li>2.4 Computational Logic</li> <li>2.6 Data Representation</li> </ul>	<p><b>Component 1:</b> Revision of all topics.</p> <p><b>Component 2:</b> Revision of all topics.</p>	<p><b>Component 1:</b> Revision of all topics.</p> <p><b>Component 2:</b> Revision of all topics.</p>

