Year 10 OCR Computing Program of Study

The Year 10 GCSE course starts off with a high focus on the Theory element of the course. After Christmas two of the three lessons are dedicated to developing student's practical skills in Python. By the end of year 10 students should have covered half the theory content, prepared their part of the NEA Resource Bank and be prepared for the NEA.

<table>
<tr><th>Term</th><th>Topic</th><th>What is Covered?</th></tr>
<tr><td>Autumn 1</td><td>Systems

Wired and Wireless Networks</td><td>• The CPU
• Function and Characteristics of the CPU
• Memory
• Storage

• The Internet
• Local Area Network
• Wireless Network
• Client Server and Peer to Peer Networks
• Protocols and Layers</td></tr>
<tr><td>Autumn 2</td><td>System Software and Security

Ethics</td><td>• Network Threats
• Identifying and Preventing Vulnerabilities
• Operating Systems Software
• Utility Software

• Ethical and Cultural Issues
• Computers in the Modern World
• Legislation and Privacy</td></tr>
<tr><td>Spring 1</td><td colspan="2">• Two Lessons will be spent on Practical Coding Skills and One lesson on Theory</td></tr>
<tr><td rowspan="2">Spring 2</td><td colspan="2">Programming
• Algorithms Flow diagrams and Pseudocode
• Programming Control Flow
• Handling Data in Algorithms
• Programming Languages
• The IDE, Errors and debugging tools
• Testing

Python Next Steps
• The Basics
• Loops
• Lists
• Procedures
• Functions</td></tr>
<tr><td>Summer 1</td><td colspan="2">All lessons will focus on preparing for the NEA. We will practice solving problems in code.</td></tr>
<tr><td>Summer 2</td><td colspan="2">Preparing for the Python NEA
• Regular Expressions
• Using Lists
• Sorting Lists
• Reading From a file
• Writing to a File

Prepare Resource Bank.

All students will be given summer holiday homework to practice code.</td></tr>
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Year 11 OCR Computing Program of Study

The first half of the Autumn term aims to get the students fully ready for the NEA, as no teacher guidance is permitted. After the NEA has been completed there are two Units of study that have to be covered. Thereafter, lessons will be focused on revision and Exam practice. Topics have been suggested for revision, however if the students feel that they need extra guidance in other areas the teacher can cover that instead.

Term	Topic	What is Covered?
Autumn 1	Algorithms	• Computational Thinking • Searching Algorithms • Sorting Algorithms • Developing Algorithms using Flow Diagrams • Developing Algorithms using Pseudocode • Interpret, Correct or Complete Algorithms
	Practice NEA	• Analysis • Identifying Success Criteria and Variables • Design using Flow Diagram and Pseudocode • Evidencing Development • Testing • Evaluation
Autumn 2	**Complete the NEA – 20 Hours** Teacher can take a break from the NEA between each task and spend a lesson to recap on certain topics.	
Spring 1	Logic and Languages	• Logic Diagrams and Truth Tables • Defensive Design • Errors and Testing • Translators and Facilities of Languages
	Data Representation	• • Units • Numbers • Characters • Images • Sound • Compression
Spring 2	**Exam Revision – Past Exam Papers** Revisit topics from Year 10: • Systems • Wired and Wireless Networks	
Summer 1	**Exam Revision – Past Exam Papers** Revisit topics from Year 10: • System Software and Security • Ethics	
Summer 2	**Exam Revision – Past Exam Papers** Revisit topics: • Algorithms	