

YEAR 11 CURRICULUM MAP: OCR GCSE Computer Science

COMP01

- 1.1 Systems Architecture
- 1.2 Memory
- 1.3 Storage
- 1.4 Wired and Wireless Networks
- 1.5 Network Topologies, Protocols and Layers
- 1.6 System Security
- 1.7 Systems Software
- 1.8 Ethical, legal, cultural and environmental concerns

COMP02

- 2.1 Algorithms
- 2.2 Programming Techniques
- 2.3 Producing Robust Programs
- 2.4 Computational Logic
- 2.5 Translators and facilities of languages
- 2.6 Data Representation

				Revision
		2.3 Producing Robust Programs & 2.5		<p><i>Pre-seen assessments for both COMP01 and COMP02 papers.</i></p> <p><i>Seneca/Quizizz used to assess/identify gaps in knowledge.</i></p> <p><i>Unseen practice papers</i></p> <p><i>CGP Exam Practice Workbook.</i></p>
2.4 Computational Logic & 2.6 Data Representation		2.1 Algorithms & 2.2 Programming Techniques	Assessment Points	
<p>2.4 Key Content</p> <p>why data is represented in computer systems in binary form Simple logic diagrams using the operations AND, OR and NOT Truth tables Combining Boolean operators using AND, OR and NOT to two levels Applying logical operators in appropriate truth tables to solve problems Applying computing-related mathematics</p> <p>2.6 Key Content</p> <p>Units of data Conversion between Binary, Denary and Hexadecimal numbers How characters are represented (ASCII and Unicode character sets) How an image is represented as a series of pixels represented in binary • metadata included in the file how sound can be sampled and stored in digital form Lossy/Lossless Compression</p>		<p style="text-align: center;"><i>Baseline COMP01 Assessment</i></p> <p style="text-align: center;"><i>Online assessment of each topic area (2 x per HT). Intervention & resits for students who fall below target grade</i></p> <p style="text-align: center;"><i>Homework exam-question practice.</i></p> <p style="text-align: center;"><i>Written Feedback</i></p> <p style="text-align: center;"><i>Use of PLC to self-assess progress.</i></p>		
		<p>2.1 Key Content</p> <p>Computational Thinking (Abstraction, Decomposition & Algorithmic thinking) Standard searching and sorting algorithms Producing algorithms using pseudocode and flow charts Interpret, correct and complete algorithms</p> <p>2.2 Key Content</p> <p>The use of variables, constants, operators, inputs, outputs and assignments The use of the three basic programming constructs used to control the flow of a program: Sequence, selection and iteration</p>		<p>2.3 Key Content</p> <p>Defensive design considerations:</p> <ul style="list-style-type: none"> - input sanitisation/validation - planning for contingencies - anticipating misuse - authentication • Maintainability: - comments - indentation • The purpose of testing • Types of testing: - iterative - final/terminal • How to identify syntax and logic errors • Selecting and using suitable test data <p>2.4 Key Content</p> <p>Characteristics and purpose of different levels of programming language, including low level languages The purpose of translators The characteristics of an assembler, a compiler and an interpreter Common tools and facilities available in an integrated development environment (IDE).</p>