**Computer Science Key Stage 5 (Year 12) Curriculum Map (OCR H466 A-Level Computer Science)**

**Year 12**

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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Components covered:**  1.3.3 Networks  1.5 – Legal, Moral, Cultural & Ethical Issues in Computer Science | **Components covered:**  1.3.3 Networks  1.5 – Legal, Moral, Cultural & Ethical Issues in Computer Science | **Components covered:**  1.1.1— Characteristics of contemporary processors, input, output and storage devices. | **Components covered:**  1.2.3 Software Development  1.2.4 Introduction to Programming | **Components covered:**  1.5 – Legal, Moral, Cultural & Ethical Issues in Computer Science | **Components covered:**  1.3 Exchanging Data |
| **Sub-Topics:**  **1.3.4a—HTML, CSS & JavaScript**  **1.5.2— Moral & Ethical Issues:**  The individual moral, social, ethical & cultural opportunities and risks of digital technology:  - Computers in the workforce  - Automated decision making  - Artificial intelligence  - Environmental effects  - Censorship & the Internet  - Monitor behaviour  - Analyse personal information  - Piracy & offensive communications  - Layout, colour paradigms & character sets. | **Sub-Topics:**  **1.3.4a—HTML, CSS & JavaScript**  **1.5.2— Moral & Ethical Issues:**  The individual moral, social, ethical & cultural opportunities and risks of digital technology:  - Computers in the workforce  - Automated decision making  - Artificial intelligence  - Environmental effects  - Censorship & the Internet  - Monitor behaviour  - Analyse personal information  - Piracy & offensive communications  - Layout, colour paradigms & character sets. | **Sub-Topics:**   * + 1. Structure & Function of Processor (a) (b) (c) (d) (e)     2. Types of Processor (a) (b) (c)     3. input, output and storage (a) (b) (c) (d) | **Sub-Topics:**  1.2.3a – Software Development Methods  1.2.4a – Programming Paradigms  1.2.4b – Procedural Programming Techniques  1.2.4c – Assembly Language  1.2.4d—Procedural Programming Techniques | **Sub-Topics:**  1.5.1 – Computing related legislation (a) (b) (c) (d) | **Sub-Topics:**  1.3.1 Compression, Encryption & Hashing (a) (b) (c) (d)  1.3.2 Databases (a) (c) (d) (e) |
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| **Assessment:**  Transitional Test (17 marks) | **Assessment:**  Website Project | **Assessment:**  CPU Test (23 marks) | **Assessment:**  Procedures & Functions Coding Task | **Assessment:**  Legal Laws in Computer Science guided research task | **Assessment:**  End of Year 12 PPE (56 Marks) |
| **Builds upon:**   * Transition Task set over the Summer break (upon entry to Year 12) * HTML & CSS covered in KS3 Computer Science. * Ethical Issues in Computer Science (GCSE Computer Science) | **Builds upon:**   * Transition Task set over the Summer break (upon entry to Year 12) * HTML & CSS covered in KS3 Computer Science. * Ethical Issues in Computer Science (GCSE Computer Science) | **Builds upon:**   * Structure and Function of the Processor covered in GCSE. | **Builds upon:**   * Procedural programming techniques developed through KS3 and KS4 Computer Science. | **Builds upon:**   * Laws related to computer science delivered in GCSE Computer Science. | **Build upon:**   * Builds upon Databases and SQL covered in GCSE Computer Science. * Lossy and Lossless Compression delivered in GCSE Computer Science. |
| **Introduces:**   * JavaScript to achieve Website interactivity | **Introduces:**   * JavaScript to achieve Website interactivity | **Introduces:**   * Pipelining to improve processor efficiency * CISC & RISC Processors * GPUS and their Uses * Multicore and Parallel Systems | **Introduces:**   * Assembly Language * Modes of Addressing * Software Development Methods and their Pros & Cons i.e. Waterfall, Spiral, Agile etc… | | **Introduces:**   * Run Length Encoding & Dictionary coding for lossless compression * Symmetric & asymmetric encryption * Different uses of hashing * Normalisation to 3NF * Referential integrity |