**Computer Science Key Stage 5 (Year 13) Curriculum Map (OCR H466 A-Level Computer Science)**

**Year 13**

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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** |
| **Components covered:**  1.3.2—Databases  1.2.4 Introduction to Programming | **Components covered:**  1.2.1—Operating Systems | **Components covered:**  1.2.2 Applications Generation | **Components covered:**  1.3.3—Networks | **Components covered:**  1.3.4 – Web Technologies |
| **Sub-Topics:**  1.3.2b Methods of Capturing, Selecting, Managing & Exchanging Data  1.3.2f Transaction Processing (ACID), Record Locking & Redundancy  1.2.4e Introduction to Object Orientated Programming | **Sub-Topics:**  1.2.1a - Function & Purpose of OS  1.2.1b - Memory Management (Paging, Segmentation & VM)  1.2.1c - Interrupts, Role of Interrupts & ISR, role within FDE cycle  1.2.1d – Scheduling  1.2.1e - Types of Operating Systems  1.2.1f - BIOS  1.2.1g - Device Drivers  1.2.1h - Virtual Machines | **Sub-Topics:**  1.2.2a – Nature of Applications  1.2.2b – Utilities  1.2.2c – Open Source vs Closed Source  1.2.2d – Translators: Interpreters, Compilers, Assemblers  1.2.2e – Stages of Compilation  1.2.2f – Linkers, Loaders, Libraries | **Sub-Topics:**  1.3.3a – Network characteristics & importance of protocols & standards  1.3.3b – Internet structure:  - TCP/IP Stack  - DNS, Protocol layering  - LANS & WANS  - Packet & Circuit Switching.  1.3.3c – Network Security & threats, Firewalls, Proxies & Encryption  1.3.3d – Network Hardware  1.3.3e – Client-Server and Peer-Peer. | **Sub-Topics:**  1.3.4b - Search Engine Indexing  1.3.4c - PageRank Algorithm  1.3.4d - Server & Client-Side Processing |
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| **Assessment:**  Phoenix School Database Task | **Assessment:**  A Level PPE | **Assessment:**  Network Group Presentations | **Assessment:**  A Level PPE | **Assessment:**  Web Technologies Examination Questions |
| **Builds upon:**  Databases delivered in Year 12 and KS4. | **Builds upon:**  Operating Systems covered in GCSE Computer Science (Function & Purpose of OS) | **Builds upon:**  Builds upon the following content covered in GCSE Computer Science:   * Utility Software * Open Source vs Closed Source | **Builds upon:**  Hardware and Networks unit covered in Year 8 and GCSE Computer Science | **Builds upon:**  Website Development delivered in Year 8 Computer Science and A-Level Computer Science (Year 12) |
| **Introduces:**   * Transaction Processing (ACID), Record Locking & Redundancy * Methods of Capturing, Selecting, Managing & Exchanging Data * Introduction to Object Orientated Programming | **Introduces:**   * 1.2.1b - Memory Management (Paging, Segmentation & VM) * 1.2.1c - Interrupts, Role of Interrupts & ISR, role within FDE cycle * 1.2.1d – Scheduling * 1.2.1e - Types of Operating Systems * 1.2.1f - BIOS * 1.2.1g - Device Drivers * 1.2.1h - Virtual Machines | **Introduces:**   * 1.2.2a – Nature of Applications * 1.2.2d – Translators: Interpreters, Compilers, Assemblers * 1.2.2e – Stages of Compilation * 1.2.2f – Linkers, Loaders, Libraries | **Introduces:**  1.3.3b – Internet structure (Packet & Circuit Switching).  1.3.3e – Client-Server and Peer-Peer. | **Introduces:**  1.3.4b - Search Engine Indexing  1.3.4c - PageRank Algorithm  1.3.4d - Server & Client-Side Processing |