**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—Databases1.2.4 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 Data1.3.2f Transaction Processing (ACID), Record Locking & Redundancy1.2.4e Introduction to Object Orientated Programming | **Sub-Topics:**1.2.1a - Function & Purpose of OS1.2.1b - Memory Management (Paging, Segmentation & VM)1.2.1c - Interrupts, Role of Interrupts & ISR, role within FDE cycle1.2.1d – Scheduling1.2.1e - Types of Operating Systems1.2.1f - BIOS1.2.1g - Device Drivers1.2.1h - Virtual Machines | **Sub-Topics:** 1.2.2a – Nature of Applications1.2.2b – Utilities1.2.2c – Open Source vs Closed Source1.2.2d – Translators: Interpreters, Compilers, Assemblers1.2.2e – Stages of Compilation1.2.2f – Linkers, Loaders, Libraries | **Sub-Topics:**1.3.3a – Network characteristics & importance of protocols & standards1.3.3b – Internet structure: - TCP/IP Stack- DNS, Protocol layering- LANS & WANS- Packet & Circuit Switching.1.3.3c – Network Security & threats, Firewalls, Proxies & Encryption1.3.3d – Network Hardware1.3.3e – 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 |