ICT and Computer Science

Year 10 Computer Science

Course information : J276 - OCR GCSE Computer Science

Year 10 Computer Science Overview

In Year 10, students explore more concepts in Computer Systems, such as security and different ethical, legal and cultural concerns. They also build upon different computational thinking skills they have built in Year 9. At the end of Year 10, students will undertake their 20 hour Programming Project, which is required by the exam board. Topics are taught and recapped during the year. This is to ensure that knowledge is retained and students are able to explain and recap their knowledge in sufficient depth for their exam in Year 11.

Unit Title	Unit Overview
Systems Architecture	Students will revisit their Systems Architecture knowledge during this unit and build upon it, taking into account different CPU designs and exploring the uses of embedded systems.
Memory	The "Memory" unit will see students refer back to their previous work in order to explain the differences between memory technologies and how they are used.
Storage	Students will explore the different rationales for using different storage devices during the "Storage" unit. They will base their rationale on different characteristics and perform different calculations to establish file size.
Topologies and Layers	In the "Topologies and Layers" unit, students will gain an understanding of different network topologies and their applications, how TCP/IP uses different layers and how packet switching is used across a network.
System Security	During "System Security", students will investigate different threats to a computer network and how they can be identified and prevented from causing harm.
Computational Logic	"Computational Logic" will see students creating logic tables and applying logical operators and using different mathematics in programming scenarios.

Programming Project	In this unit, students will complete the exam board set Programming Project. During this time, students will plan, develop, create and test a solution to a programming problem.