



		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		<b>CPU Architecture &amp; Performance, Programming fundamentals &amp; Computational Thinking</b>	<b>Units and Data Storage, Searching and Sorting Algorithms &amp; Data Types</b>	<b>Networking and network Security, Designing, creating and refining algorithms</b>	<b>Operating systems &amp; Utility Software, Defensive Design &amp; Boolean Logic</b>	<b>Programming Project, Testing &amp; IDE's</b>	
Year 10	Details	The basic fundamentals of a computer are introduced and the factors that can affect performance. The students are also re introduced to the concept of how we solve a problem and given the opportunity to expand their coding knowledge.	Given the context of what a computer is, students are taken through the units used in computing and how data is converted and stored in a computer system. This leads onto the different data types used in programming, and some of the keep algorithms used with data.	In these modules, students are taken through how computers can be connected together and how they can be secured against a variety of network threats. In programming they are shown how a program can be designed before programming, and how code can be refined.	With a basic understanding of how a computer works, these modules cover the functions of the operating system and the utility software a modern computer will need. In programming how best to produce robust is covered and also how Boolean logic can be applied.	This project takes all the information that the student has learnt so far, and they are given the time to apply that knowledge to a programming task. They have to document the entire task from initial design, to coding through, to debugging and testing. During this project they are taught all about the functions of an Integrated Development Environment and how testing is carried out and documented.	
	Methods of Assessment	During this unit, student progress and attainment is assessed by: <ul style="list-style-type: none"> <li>• Regular teacher questioning.</li> <li>• Take 5 at the start of every lesson (5 questions from all the topics learnt so far).</li> <li>• Topic Test performed at the end of each major topic.</li> </ul>				During this unit, student progress and attainment is assessed by: <ul style="list-style-type: none"> <li>• Ongoing teacher assessment throughout.</li> <li>• Peer review.</li> </ul>	
	Use of ICT	Computers are used throughout the course, with students using OneNote to keep their notes and create their revision material. They also have access to Smart Revise an online revision and testing tool and an electronic version of a textbook suitable for the course.					

Year 11		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
		<b>Ethical, Legal, Cultural and Environmental Impacts, SQL</b>	<b>Revision and deeper knowledge</b>				<b>Exam Season</b>	
	Details	The impact of computing can have a dramatic effect on many things. In this module students are introduced to the affects computing can have on many parts of society. In programming they are introduced to the different types of programming languages including Standard Query Language	With the bulk of the course now covered students are taken through some of the deeper concepts that are more easily understood with the level of knowledge they have. This includes SQL injection and how network routers work. The results of the Mocks in December are used to target the revision areas.				Two 90 Minutes <b>Paper 1</b> – Computer Systems 80 Marks. <b>Paper 2</b> - Computational thinking, algorithms and programming 80 Marks.	
	Methods of Assessment	During this unit, student progress and attainment is assessed by: <ul style="list-style-type: none"> <li>• Regular teacher questioning.</li> <li>• Take 5 at the start of every lesson (5 questions from all the topics learnt so far).</li> <li>• Topic Test performed at the end of each major topic.</li> </ul>						
Use of ICT	Computers are used throughout the course, with students using OneNote to keep their notes and create their revision material. They also have access to Smart Revise an online revision and testing tool and an electronic version of a text book suitable for the course.							

### Useful Resources

Student notes in class One Note

Physical and electronic textbook

Sample exam papers

Smart Revise

Exam Board Specification: [OCR J277 Computer Science](#)