



Year 12 Computer Science Curriculum Map

Overview	<p>OCR's A Level in Computer Science will enable students to develop:</p> <ul style="list-style-type: none"> ▪ an understanding of and ability to apply the fundamental principles and concepts of computer science including; abstraction, decomposition, logic, algorithms and data representation ▪ the ability to analyse problems in computational terms through practical experience of solving such problems including writing programs to do so ▪ the capacity for thinking creatively, innovatively, analytically, logically and critically ▪ the capacity to see relationships between different aspects of computer science ▪ mathematical skills ▪ the ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology 					
Year 12	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	The characteristics of contemporary processors, input, output and storage devices	Software and software development	Exchanging data	Data types, data structures and algorithms	Legal, moral, cultural and ethical issues	Project: Analysis of the problem
Knowledge	Structure and function of the processor Types of processor Input, output and storage	Systems Software Applications Generation Software Development Types of Programming Language	Compression, Encryption and Hashing Databases Networks Web Technologies	Data Types Data Structures Boolean Algebra	Computing related legislation Moral and ethical Issues	Problem identification Stakeholders Research the problem Specify the proposed solution
Skills	<p>AO1 Demonstrate knowledge and understanding of the principles and concepts of computer science, including abstraction, logic, algorithms and data representation</p> <p>AO2 Apply knowledge and understanding of the principles and concepts of computer science including to analyse problems in computational terms</p> <p>AO3 Design, program and evaluate computer systems that solve problems, making reasoned judgements about these and presenting conclusions</p>					