

Computing, IT, Business and Economics Faculty
Curriculum Map for GCSE Computer Science

Year 11

Statement of Intent	<i>The objective in Year 11 is to consolidate and build on the knowledge gained in Year 10 in order to prepare for their mock exams in Term 2 and into term 6 for their live exams. The year will start differently to than previously planned to accommodate retrieval practice.</i>
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Term 1	<p>Topic: Retrieval and recovery of work covered as of lockdown (Part 1 - 3 weeks) Students will revisit, consolidate and expand on their knowledge of the Data Representation Unit, Computers and Bigger Picture (Some of which was taught over school closure). The use of knowledge organisers and work mats will be at the forefront to re-teach and consolidate this learning in a different, hands on manner (all work mats are available on ItsLearning).</p> <p>Topic: Networks and communications (Part 2 – 5 weeks) Students will learn about the role of networks in computer science. Specifically, students will cover how data is transmitted over networks using a variety of hardware, software and protocols. Students will also visit the concept of Network security.</p> <p>Lessons:</p> <ul style="list-style-type: none"> • Introduction to networks • Network transmissions and packets • Types of network topology • Network models • Network protocols • Network security <p>Homework: Students will receive a fortnightly homework that includes past paper questions to support their understanding, exam question skill, whilst also providing opportunity for assessment. These are then assessed and progress can be made through HTIs and MACs. These are reflective on the topics they covered previously.</p> <p>Assessment: Students will sit their Year 10 Mock in October which will comprise of only topics they have covered and will be only from paper 1. Students will be given a check sheet of what to revise.</p>
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<p>Terms 2& 3</p>	<p>Topic: Problem solving and Programming</p> <p>Students will be exploring the concept of algorithms. They will be learning important programming constructs, data types, input and output, searching and sorting algorithms as well as testing algorithms to see if they produce the correct result. Students should eventually be able to write algorithms for a given scenario worth 9 marks. Students will further enhance their problem solving abilities to complete trace tables, identify and fix errors, comment on the efficiency of algorithms as well as developing programming understanding with sub programs and libraries. Along side the theoretical side of this unit, students will also develop their practical programming skills to apply the theory to real life programming.</p> <p>Lessons:</p> <ul style="list-style-type: none"> • Introduction to algorithms • Selection and iterations • Programming – data types and operators • Data structures and iteration • Writing pseudo code for advanced problems • Searching and sorting algorithms • Writing flow charts for advanced problems • Abstraction and decomposition • Using Trace tables • Identifying and rectifying Errors • Sub programs and libraries <p>Homework: Students will receive a fortnightly homework that includes past paper questions to support their understanding, exam question skill, whilst also providing opportunity for assessment. These are then assessed and progress can be made through HTIs and MACs.</p> <p>Assessment: Students will sit their Year 11 Mock in November which will consist of an entire paper 1 exam. QLA and DTT to follow.</p>
<p>Term 4 & 5</p>	<p>Terms 4 and 5 will be used as revision of all aspects of Paper 1 and Paper 2.</p> <p>Topic: Paper 1 revision</p> <p>As the majority of Year 11 thus far will have been dedicated to paper 2 (algorithms and programming), Term 4 is used to consolidate the skills and understanding of Paper 1.</p>

	<p>Homework: Students will receive a fortnightly homework that includes past paper questions to support their understanding, exam question skill, whilst also providing opportunity for assessment. These are then assessed and progress can be made through HTIs and MACs.</p> <p>Assessment: The students will sit a paper 1 exam.</p>
Term 4 & 5	<p>Topic: Paper 2 revision This term serves the purpose of consolidating paper 2 knowledge to then sit a paper 2 mock.</p> <p>Homework: Students will receive a fortnightly homework that includes past paper questions to support their understanding, exam question skill, whilst also providing opportunity for assessment. These are then assessed and progress can be made through HTIs and MACs.</p> <p>Assessment: The students will sit a paper 2 exam.</p>
Term 6	Year 11 – away after examination.