



Learning Aims and Curriculum Intent:

The A-level specifications in computer science encourages students to develop: an understanding of, and the 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 related to: Boolean algebra, comparison and complexity of algorithms, number representations and bases. The ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology.

Term	Content, Key Questions and Knowledge	Skills	Assessment
Michaelmas	<p>4.14 NEA – Non-Examined Assessment – the computing practical project Can I write my own programmed solution?</p> <p>The project allows students to develop their practical skills in the context of solving a realistic problem or carrying out an investigation. The project is intended to be as much a learning experience as a method of assessment; students have the opportunity to work independently on a problem of interest over an extended period, during which they can extend their programming skills and deepen their understanding of computer science.: Specification Link</p> <p>Paper 1 – Skeleton Code introduction What does someone else’s program do?</p> <p>Pupils are provided with a program written by AQA the exam board. The program is available from September 1st. Time will be taken to understand the function of the program and the mechanics of the program, with a target of being familiar enough to be able to explain the program constructs as well as amend and add to the program online under examination conditions.</p> <p>Revision and Reinforcement What don’t I know? Revision for the mock exams in January and reinforcement of skills and knowledge.</p>	<p>The most important skill that should be assessed through the project is a student's ability to create a programmed solution to a problem or investigation. This is recognised by allocating 42 of the 75 available marks to the technical solution and a lower proportion of marks for supporting documentation to reflect the expectation that reporting of the problem, its analysis, the design of a solution or plan of an investigation and testing and evaluation will be concise</p>	<p>Formative feedback at specific points during the project.</p> <p>Retrieval practice starters throughout the course.</p> <p>Practice examination questions.</p> <p>Regular quizzes using Smart Revise and Isaac Computer Science.</p>
Lent	<p>4.14 NEA – Non-Examined Assessment – the computing practical project Continue with the project.</p> <p>Paper 1 – Skeleton Code introduction Continue with the skeleton code.</p> <p>Revision and Reinforcement What don’t I know? Revision for the mock exams in April and reinforcement of skills and knowledge.</p>	<p>The most important skill that should be assessed through the project is a student's ability to create a programmed solution to a problem or investigation. This is recognised by allocating 42 of the 75 available marks to the technical solution and a lower proportion of marks for supporting documentation to reflect the expectation that reporting of the problem, its analysis, the design of a solution or plan of an investigation and testing and evaluation will be concise</p>	<p>Formative feedback at specific points during the project.</p> <p>Retrieval practice starters throughout the course.</p> <p>Practice examination questions.</p> <p>Regular quizzes using Smart Revise and Isaac Computer Science.</p>
Trinity	<p>Paper 1 – Skeleton Code introduction Continue with the skeleton code.</p> <p>Revision and Reinforcement What don’t I know? Revision for the mock exams in April and reinforcement of skills and knowledge.</p> <p>Examinations</p>	<p>Revision</p>	<p>Formative feedback at specific points during the project.</p> <p>Retrieval practice starters throughout the course.</p> <p>Practice examination questions.</p> <p>Regular quizzes using Smart Revise and Isaac Computer Science.</p>

What consolidation looks like in this subject	Application of GCSE programming skills to new and more challenging situations. Development of programming skills to include advanced concepts such as OOP and low-level programming. Developing understanding of theoretical concepts to A-Level standard (eg OSI model)	
Examples of Homework	Worksheets reinforcing lesson content. Problem solving challenges. Practice examination style questions. NEA work.	
Key terminology	AQA Subject specific vocabulary	
Super-curricular enrichment and scholarly extension	<ul style="list-style-type: none"> • Read: Computing Sharepoint Site (News Feed), MCI Resources • Watch: BBC Click, • Listen: BBC Sounds - Podcasts (Technology Section) • Visit: 3D Virtual Tour — The National Museum of Computing (tnmoc.org) 	
Useful websites	https://isaacomputerscience.org https://student.craigndave.org/ https://www.codewars.com/	
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