



Key Stage: 5

Subject: Computer Science

Aims of the subject: 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 (A-level only)
 - number representations and bases
- the ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology.

A-Level Examination Board: AQA

Assessment Overview:

On-screen exam (2hrs 30mins) 40%. Written exam (2hrs 30mins) 40%. Non-exam assessment 20%

Course	What will I study	Assessment
Year 1	Term 1 Programming skills Fundamentals of programming Fundamentals of data structures Theory of computation Fundamentals of computer systems	You will be given individual questions from past papers during lessons based around the topic that you are currently learning. These will be assessed and compared to your target grade. In May there will be a full mock exam.

	<p>Term 2 Programming skills Fundamentals of data representation Fundamentals of computer organisation and architecture Fundamentals of communication and networking Consequences of uses of computing</p> <p>Term 3 Software development Revision for AS exams</p>	
Year 2	<p>Term 1 Advanced programming skills Advanced data structures Fundamentals of algorithms Further Theory of computation Advanced data representation Fundamentals of databases Big Data</p> <p>Term 2 Advanced programming skills Advanced computer systems Advanced computer organisation and architecture Advanced principles of networking Fundamentals of functional programming Further Consequences of uses of computing</p> <p>Term 3 Revision for A Level examinations</p>	<p>You will be given individual questions from past papers during lessons based around the topic that you are currently learning. These will be assessed and compared to your target grade. In May there will be a mock exam covering the appropriate topics. Your practical preparation for the non-exam component will be frequently reviewed.</p> <p>A Level examinations</p>