



Computer Science

Overview

A Level Computing is relevant to the modern and changing world of Computing. It is a practical subject where learners can apply the academic principles learned in the classroom to real world systems. It is an intensely creative subject that combines invention and excitement and you will develop an ability to analyse, critically evaluate, and make decisions.

You will develop an understanding of and ability to apply the fundamental principles and concepts of computer science including abstraction, decomposition, logic, algorithms, and data representation. It will give you the ability to analyse problems in computational terms through practical experience of solving such problems including writing programs to do so.

You will learn about the fundamentals of the theory of computation, programming, data structures, and a systematic approach to problem solving and data representation. You also learn about computer systems, including software (e.g. classification, system and OS) and hardware (e.g. organisation and architecture, internal components including the CPU and storage devices) and computer networks.

Students will follow the AQA Computer Science A level (code 7517D)

There will be two exam papers, one testing your computational thinking and programming skills, the other the remaining computing theory. There will also be an extended project which will test your research and programming skills during which you will develop a solution will be for a third party, demonstrating your skills in Analysis, Design, Software Development, Testing, Implementation, and Evaluation.

Expectations

We expect our students to take responsibility for their learning and to be independent and hard-working. This is a very demanding course which will require a keen interest in the subject and a willingness to explore the fundamental principles and concepts of computer science.

Independent Learning

You will have approximately 300 minutes per fortnight teaching time. You will also be expected to do approximately 5 hours per week on coursework or research for examination pre-prepared work, either in private study periods or at home. Computing Science A-Level is NOT an easy option – it is 20% coursework and 80% written external exams. Students should be aware that they will be expected to cope with this.

Entry Requirement: There are no additional entry requirements to those mentioned in the Sixth Form Prospectus. GCSE Computer Science is not a prerequisite but is an enormous advantage. Mathematics skills above the minimum entry requirements will also help.