

This course is available to students in Maths Sets 1 or 2 in Year 9.

Aims

This exciting GCSE gives you an excellent opportunity to investigate how computers work and how they are used, and to develop computer programming and problem-solving skills. It aims to give learners a real, in-depth understanding of how computer technology works and develop critical thinking, analysis and problem-solving skills. You will also do some in-depth research and practical work. For example, some of the current investigations look at JavaScript, encryption and assembly language programming.

Course Content

This three-unit course is designed to give you an in-depth understanding of how computer technology works and a look at what goes on 'behind the scenes'.

You do not need to have studied this subject before, and assessment is quite simply based on a written examination, a practical investigation and programming tasks.

A451 – The computer systems and programming unit will teach you the theory about a wide range of issues such as hardware and software, the representation of data in computer systems, databases, computer communications and networking, programming and more.

A452 – The practical investigation is all about engaging with computing in the real world. You will look at a computer topic in more depth and carry out a practical investigation into a computing issue.

A453 – The programming project will call on you to design, code and test a solution to three tasks using a suitable programming language.

Assessment

A451: 1 hour 30 minutes Written paper 40%

A452: 20 hours Controlled Assessment 30%

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Looking Ahead

If you take a GCSE in Computing and then go on to study the subject at A Level or university, you will have an advantage over fellow students who are picking up the subject at these higher levels. The increasing importance of information technologies means that there will be a growing demand for professionals who are qualified in this field.

The course is also an excellent preparation if you want to study or work in areas that rely on the skills you will develop, especially when they are applied to technical problems. These areas include Engineering, Financial and Resource Management, Science and Medicine.