

COMPUTING GCSE

Examination Board – OCR

5 periods per 2 weeks

Course content

The course aims to give you a real, in-depth understanding of how computer technology works. You will no doubt be familiar with the use of computers and other related technology from your ICT lessons, other subjects and elsewhere. However, this course will give you an insight into what goes on 'behind the scenes', including computer programming, which many students find absorbing. You will spend time looking at problems and trying to solve them using different computer programming languages and techniques.

In the two GCSE years 3 units of work will be undertaken.

Unit 1: computer systems

This unit covers topics relating to how the computer works, we look at topics such as systems architecture, memory, storage, network topologies, protocols and layers, and system security. This is assessed in an external written exam.

Unit 2: computational thinking, algorithms and programming

This unit relates to how programming concepts work. We look at how to design and make an algorithm, the various main programming techniques, computational and mathematical logic, translators and facilities of languages and how to represent data. All this will be put together, teaching you to program to a high level. This is assessed in an external written exam.

Unit 3: programming project

A practical programming task, chosen from a list provided by OCR, where you will show that you:

- understand standard programming techniques;
- are able to design a coded solution to a problem;
- are able to create a coded solution fully annotating the developed code to explain its function;
- are able to test their solution and show that it works.

Assessment

Two exams that are one and a half hours long. Each worth 80 marks and 40% of the grade.

One 20 hour programming project conducted in a controlled environment. This is worth 40 marks and 20% of the total grade.

Progression

This course provides excellent preparation for any student wishing to study computing/computer science at A Level (offered at Shelley College), or under-graduate degree level study and employment in the field of computer science. The increasing importance of information technologies means there will be a growing demand for professionals who are qualified in this area. Students who have taken a GCSE in Computing and who then progress to study the subject at A Level or university will have an advantage over their colleagues who are picking up the subject at these levels.

Homework

Homework will be set regularly and will involve researching around topics covered in class, answering questions and practicing the programming skills and techniques developed in lessons.