

COMPUTER SCIENCE A-LEVEL

EXAM BOARD: OCR

COURSE DESCRIPTION:

Our A-Level Computer Science qualification (OCR H446) splits learning into three sections: Computer Fundamentals, Programming Techniques and Logical Methods, and a Programming Project. As natural progression from GCSE (9–1) Computer Science it provides the perfect springboard for students looking at specialising in a computing-based career.

Within the course, students study a range of theory topics. These include the principles and understanding linked to programming, hardware and software, networks, systems development life cycles and implications of computer use.

A-Level Computer Science will help you develop your ability to; think creatively, innovatively, analytically, logically, and critically. You will be able to apply skills in and gain an understand of computing (including programming) in a range of contexts to solve problems. We will also delve into producing graphical user interfaces and object-orientated programming solutions.

By completing a programming project, students will have the opportunity to create a substantial piece of software using modern design methods which they can use to display their skills and talents.

COURSE CONTENT:

There are three components at A-Level.

- Computer Systems
- Algorithms and Programming
- Non-exam assessment
- **Component 01** - will introduce learners to the internal workings of the Central Processing Unit (CPU), the exchange of data and will also look at software development, data types and legal and ethical issues.

- **Component 02** - will incorporate and build on the knowledge and understanding gained in the Computer Systems component. In addition to this students will be able to have a detailed look into the world of designing, creating and refining algorithms and programs.
- **Component 03** - the non-exam assessment, assesses the ability to use the knowledge and skills gained through the course to solve a practical programming problem. (20% of A-Level).

ASSESSMENT:

- **Computer Systems (Written Paper)** - 40% weighting, 140 marks.
- **Algorithms and Programming (Written Paper)** - 40% weighting, 140 marks.
- **Non-Exam Assessment (Programming Project)** - 20% weighting, 70 marks.

FUTURE OPPORTUNITIES:

This course is designed to provide a progression route to higher education. It is particularly useful for those considering a career in computing, engineering and science, or studying a related subject at university.

ENTRY REQUIREMENTS:

It is not a requirement of the course to have studied Computer Science at GCSE. A Computer Science GCSE would of course be preferred, however if you have a genuine interest and passion for Computer Science then this would be the course for you.

Students are expected to have a Maths Grade 5 and English Language Grade 5.

Students who have completed GCSE Computer Science must have a Grade 5.