OCR GCSE

We offer the latest GCSE Computer Science specification incorporating new improvements

to the specification. This course builds on the Third Form curriculum, where computer

programming and robotics were introduced, alongside ICT skills.

The aims of this course are to:

• Give a real, in-depth understanding of how computer technology works

• Provide excellent preparation for higher study and employment in Computer Science

• Develop critical thinking, analysis and practical problem-solving skills

This course is not about using Microsoft Office; it is about understanding the principles of

Computer Science. It is a challenging, engaging and focused course.

OCR Computer Science course structure:

Unit 1: Computer systems

You will learn about the important components that make up a computer system. You will

discover how these parts work together under software control. You will study how

computers deal with different types of data including an understanding of binary numbers. You

will learn about different types of computer networks and how the Internet works. You will

look at threats to computer security and how to guard against those threats. We will discuss

the ethical and legal issues that arise from the use of computers.

• Written paper - 1 hour 30 minutes

• 80 marks (50% of the final grade)

Unit 2: Computational thinking, algorithms and programming

You will learn how to define and solve problems using computational methods. You will learn

techniques to write your own algorithms and you will study a variety of standard algorithms.

You will study the way programming languages work and you will turn your algorithms into

working code. You will learn how to test and refine your code. This unit also includes the

study of Boolean logic and the logic circuits that are fundamental to the operation of digital

computers.

• Written paper - 1 hour 30 minutes

• 80 marks (50% of the final grade)

Practical Programming

You will develop practical skills to design, write, test and refine programs using a high-level

programming language. Programming is a creative process where there are many solutions to

a given problem. Once you have a basic ‘toolkit’ of techniques you will have the power to

create all sorts of possibilities.

If you are fascinated by how computers work and want to learn how to program, then this

course is for you.