GCSE Computer Science

'Learning to write programs stretches your mind, helps you think better and creates a way of thinking about things that is helpful in all domains.' **- Bill Gates**

Course Overview

Your pathway to building the next big app or website starts here!
Studying computer science gives you the power to build anything you want on a digital device, from financial software to online shops to games. You will learn the fundamental principles behind programming, the inner workings of computers and how they communicate over networks like the internet.
We will cover problem-solving techniques and Python programming language. Lessons will be a mix of practical and theory.
Almost all sectors have been turned upside down by technology. Computers are everywhere, they have revolutionised agriculture, entertainment, manufacturing, medicine, even fashion!
Studying computer science is a gateway to anything you want to do or be in the future and Tech companies are some of the most powerful, innovative, and fun places to work in the world!

What are the topics I will study?

- Programming fundamentals and algorithms
- Networks, network security and the internet
- Systems architecture
- Data representation and Boolean logic
- Ethical, legal, cultural, and environmental impacts of technology

What skills and knowledge will I develop?

Problem solving – the ability to analyse problems, break them down, ignore irrelevant information and piece together a plan for how to solve it. Coding – you will learn how to write code in Python, it is used by Intel, IBM, NASA, Pixar, Netflix, Facebook, JP Morgan Chase, Spotify, and several other massive companies.

Further reading
OCR Specification [Computer Science](www.ocr.org.uk) www.ocr.org.uk

Qualification Details
- **Qualification**: GCSE
- **Exam board**: OCR J277
- Included in the EBACC award.

Assessment Pathway
- Two equally weighted 90-minute paper exams and one will assess your ability to write or refine programs.

Possible Careers
- This course is an excellent basis for an A Level in computer science.
- This can open the door to a **huge** number of degrees and apprenticeships.

Examples:
- **Hardware engineer** – Create, implement, and test physical components.
- **Software developer** – Manage the creation of computer programs.
- **Security analyst** – Protect networks from cyberattacks.
- **Video game developer** – Design the next big game.

Skills:
- **Problem Solving:** The ability to find a solution to a situation or challenge.
- **Aiming High:** The ability to set clear, tangible goals and devise a robust route to achieving them.

Key Contact: Mr K Mistry F003

"Every girl deserves to take part in creating the technology that will change our world, and change who runs it."
— Malala Yousafzai, Nobel Peace Prize Winner

"If you want to create and be a visionary, you're probably going to be working with technology in some way."
"The value in learning computer science is pretty evident with how important tech is in our world."
— Steph Curry, three-time NBA Champion