# COMPUTER SCIENCE

at SCGSG

**Head of Department:**
Mrs C. Rudd

**AQA - Specification 8525**

## The course:

This course will build on the knowledge, understanding and skills established through the Computer Science elements of the Years 7-9 programme of study.

The content has been designed not only to allow for a solid basis of understanding but to engage you and get you thinking about real world application.

## Computer Science encourages students to:

- Understand and apply the fundamental principles of Computer Science, including abstraction, logic, algorithms, and data representation.
- Develop practical programming skills using Python to solve problems, including designing, writing and debugging programs.
- Think creatively, innovatively, analytically, logically and critically.
- Understand the components that make up digital systems, and how they communicate with one another and with other systems.
- Understand the impacts of digital technology to the individual and to wider society.
- Apply mathematical skills relevant to Computer Science.

## Where are they now?

After completing the A-Level Computer Science course, our most recent leavers have progressed to some of the top universities in UK such as:

- BA (Hons) Computer Science at Cambridge
- BSc Computer Science at Durham University
- Degree Apprenticeship with PwC at the University of Birmingham (degree paid for by PwC)

A-Level Computer Science prepares you very well for a range of degrees including:

- Computer Science
- Software Engineering
- Computer Games Development
- Information Systems
- Forensic Computing
- Computer Technologies
- Network Management
- Web Design and Services

## Course content:

| | Content Overview | Weighting |
|---|---|---|
| **Computational Thinking & Programming Skills** | **Paper 1:** 90 marks \| 2 hours<br>Written paper (no calculators allowed)<br>*Computational thinking, code tracing, problem-solving, programming concepts including the design of effective algorithms and the designing, writing, testing and refining of code.* | 50% |
| **Computing Concepts** | **Paper 2:** 90 marks \| 1 hour and 45 minutes<br>Written paper (no calculators allowed) | 50% |
| **Practical Programming** | Students are to be given the opportunity to undertake a programming task(s) during their course of study which allows them to develop their skills to design, write, test and refine programs using a high-level programming language.<br>Students will be assessed on these skills during the written examinations in Paper 1. | - |