

COMPUTER SCIENCE



COMPUTER SCIENCE IN THE SIXTH FORM

Computing and computer technology are part of just about everything that touches our lives, from the cars we drive and the movies we watch to the ways businesses and governments deal with us. Understanding different dimensions of computer science is part of the necessary skill set for an educated person in the 21st century.



WHY STUDY COMPUTER SCIENCE?

You should study computer science if:

- You have an interest in computing and computer systems, specifically how things work and programming
- You want to develop strong problem solving skills
- You want to be provided with opportunities for creativity and innovation

SOMETIMES IT IS
THE PEOPLE NO
ONE IMAGINES
ANYTHING OF
WHO DO THE
THINGS NO ONE
CAN IMAGINE

- Alan Turing

SKILLS REQUIRED

Grade 7 or above in GCSE Computer Science if taken (Grade 7 or above in GCSE Mathematics for students who have not taken the GCSE).

The ability to work independently to develop programming skills in the context of the programming project.

WHAT WILL YOU STUDY?

A Level Computer Science at RHS follows the OCR syllabus.

The topics covered during the two year course are:

- Characteristics of processors, input, output and storage devices
- Software and software development
- Exchanging data
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues
- Elements of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms

You will also complete a non-exam assessment (NEA) programming project. You will choose a computing problem to work through. This will include: analysis of the problem, design of the solution, developing of the solution and evaluation. This project makes up 20% of the A Level.

EXAM STRUCTURE:

COMPONENT	LENGTH	WEIGHTING
Paper 1 - Computer Systems	2hrs 30 mins	40%
Paper 2 - Algorithms and Programming	2hrs 30 mins	40%
Component 3 - Programming Project	NEA	20%



WHAT SKILLS WILL I GAIN?

While studying A Level Computer Science
you will develop your skills in:

- Problem solving and related algorithm creation
- Producing creative solutions to given 'real-world' problems
- A variety of different programming languages
- Communication through working with a stakeholder during your programming project



CAREERS

IT ARCHITECT

HARDWARE ENGINEER

MOBILE DEVELOPER

VIDEO GAME DEVELOPER

SOFTWARE DEVELOPER

SECURITY ANALYST

VIRTUAL REALITY

MACHINE LEARNING

ARTIFICIAL INTELLIGENCE

DATA SCIENTIST

SOFTWARE ENGINEERING

WEB DEVELOPER

COMPUTER PROGRAMMER

WEB DESIGNER

INFORMATION SYSTEMS MANAGER

If you would like to discuss the A Level specification and the options that the Computer Science Department offer, please don't hesitate to contact:

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