

Computer Science

What is this course about?

Rather than just using computers and software, Computer Science teaches students how to use and program them to work for us and mould them to do exactly what we want them to do.

Students will explore a computer science curriculum developed to meet the needs of technology firms including Google and Microsoft, helping to prepare them for employment in a range of exciting and rewarding careers pathways. Students will learn about critical thinking, analysis and problem solving in a fun and interesting way. These skills can also be applied to day-to day life. Students will learn about hardware and software, computers in the real world and how to program through practical investigations of their own.

What skills will students gain?

Learn to write computer code and become an active creator and controller of technology instead of just being a passive user. Know how systems work, how they are designed and programmed and gain familiarity with the fundamental principles of information and computation. Enrich your life through digital communication and education. Develop the skill to understand and change the world through computational thinking and an excitement in developing and using digital technologies.

What skills are needed?

The students' experience of Computing from study in Year 8, alongside an interest in programming and demonstrated skills in Science & Maths will provide the necessary building blocks required for this exciting opportunity. Students who may be slightly weaker in either Maths or Science, but who can demonstrate an aptitude for programming, may also have their chance to get their hands on a Raspberry Pi.

Entry Requirements for Computer Science (to be met by Progress Update 3)

3S in both Maths and Science - no further approval required

3S in either Maths or Science – discussion with current Computing teacher required

Any pupils who do not achieve 3S in either Maths or Science could be accepted if they display the aptitude for Computing in Year 8 Computing lessons.

How is this course assessed?

The assessment of this course is split into three parts :-

Part 1 – Written Examination, 90 minutes, worth 80 marks (40% of GCSE) - Computational thinking, problem solving, code tracing and applied computing as well as theoretical knowledge of computer science.

Part 2 – Written Examination, 90 minutes, worth 80 marks (40% of GCSE) - Theoretical knowledge

Part 3 - Report: totalling 20 hours of work worth 80 marks (20% of GCSE)

Qualification Received: GCSE

Grade Range: 9 - 1

What career or further education opportunities does this course lead to?

Students who succeed as programmers will have their choice of careers in a lucrative and effectively, seller's market. Even if programming is not the student's first choice of career, the logical, analytical and problem solving skills which will be developed are still much sought after by any progressive employer.

To see how computing skills can applied to a wide range of careers, the programme 'Coding: The Future is Creative' is available on the BBC iPlayer or log onto <http://www.bbc.co.uk/programmes/p01w57h6> to see the clips.

See Mr Hildreth (Room 22) for further details.