SUBJECT: Computer Science

YEAR: 12 and 13

HEAD OF DEPARTMENT: Mr Wells

LEAD TEACHER: Ms Clements/Mr Wells

GROUPING POLICY: Mixed ability in option blocks

EXAM BOARD: OCR (H446)

ASSESSMENT: 80% External Examination, 20% Programming project

Link to Specification:
https://www.ocr.org.uk/qualifications/as-and-a-level/computer-science-h046-h446-from-2015/specification-at-a-glance

COURSE CONTENT

What will my child learn?

Students are introduced to the internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues.

Students are expected to apply the principles of computational thinking to a practical coding programming project. They will analyse, design, develop, test, evaluate and document a program written in a suitable programming language. The project is designed to be independently chosen by the student and provides them with the flexibility to investigate projects within the diverse field of computer science. We support a wide and diverse range of languages.

ASSESSMENT

How will my child's work be assessed?

80% of the qualification is assessed at the end of Year 13 through two external examinations.
20% of the qualification is assessed through a programming project where students will develop a problem and then design and create a program to solve the problem they have identified.

See below for details.

Progression Routes:

The demand for skilled Computer Science students is continually growing and outstripping supply. Computer Science graduates are highly in demand by employers both in the UK and abroad.

Paper 1: Computer systems (01)

What's assessed

The internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues.
It covers:

- The characteristics of contemporary processors, input, output and storage devices
- Types of software and the different methodologies used to develop software
- Data exchange between different systems
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues

How it's assessed

- Written exam: 2 hours 30 mins

- 140 marks
- 40% of A-level

Paper 2: Algorithms and programming (02)

What's assessed

Students will use computational thinking to solve problems. It covers:

- What is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.)
- Problem solving and programming – how computers and programs can be used to solve problems
- Algorithms and how they can be used to describe and solve problems.

How it's assessed

- Written exam: 2 hours 30 minutes
- 140 marks
- 40% of A-level

Programming project (03)

What's assessed

Non-exam assessment.

Students will be expected to analyse a problem (10 marks), and design (15 marks), develop and test (25 marks), and evaluate and document (20 marks) a program. The program must be to solve it written in a suitable programming language.

How it's assessed

- Coursework documentation and working program
- 70 marks
- 20% of A-level