Course Summary

We follow the OCR specification – AS (H046) and A Level (H446). The aim of this qualification is to develop an understanding of the fundamental principles and concepts of Computer Science. Students will develop the ability to analyse problems in computational terms through practical experience of solving such problems, including writing programs to do so. There is the opportunity to enhance your capacity for thinking creatively, innovatively, analytically, logically and critically.

Why study this subject?

Computer Science explores an ever-developing area, focusing on discovering how the technology we use every day works, as well as creating your own software. The key features are problem solving using computers, programming, algorithms, and mathematical skills used to express computational laws and processes. Although the A Level builds upon skills developed during GCSE, newcomers are welcome to begin their journey into the world of Computer Science!

What happens in lessons?

During Year 12, you develop your coding skills, creating programs that are challenging, as well as learning about devices, software development, networks, and binary. In Year 13, you complete a project for a client, creating an application to meet their needs.

There are three components in the A Level and two for AS.

COMPONENT 1 – Computer Systems
This component looks at: the characteristics of processors, input, output and storage devices, software and software development, exchanging data, data types, data structures and algorithms, and legal, moral, cultural and ethical issues

COMPONENT 2 – Algorithms and programming
This component looks at: elements of computational thinking, problem solving and programming, algorithms to solve problems and standard algorithms.

COMPONENT 3 – Programming project
(A Level only) In Year 13 students create a piece of software for a client of their choice, with the project including a written explanation of the process.

Course Assessment

There are two examinations (AS and A Level) and a non-exam assessment (A Level only).

COMPONENT 1 – Computer Systems
(40% of A Level, 50% of AS, exam)

COMPONENT 2 – Algorithms and programming
(40% of A Level, 50% of AS, exam)

COMPONENT 3 – Programming project
(20% of A Level)

What to do afterwards

Career opportunities include: Web designer, computer games designer, software development, network engineering, systems analyst, Business IT, artificial intelligence.

“By the time you’re an adult, you won’t be able to escape the world of technology. An A Level in Computer Science will not only equip you with the knowledge to face the future, but will provide a valuable asset for your search for employment.” Michali

Reading around the subject

There is a textbook in class, and Youtube channels that focus on the content in the course. There are news articles all the time about the world of Computing too.