Computer Science

Qualification: A-Level Computer Science
Additional Entry Information: GCSE Maths grade B
GCSE English Language grade B
GCSE Computer Science desirable but not essential
Speak to **Mrs K Davey** for more information.

What do students need to know or be able to do before taking the course?

Some prior experience of programming preferably in Python is very desirable for this course. This course involves problem solving, logical thinking and a range of mathematics.

What will students learn on this course (skills and course content)?

Pupils will learn a range of skills in this course including about computer architecture, networking, build on programming skills and look at how computer science impacts society today.

What sort of student is this course suitable for?

Pupils who are interested in learning about the ins and outs of computer systems, how they work and have a desire to develop their programming skills.

What kind of work will students need to be able to do outside of lessons?

Pupils will have a series of homework tasks which will mainly be past paper related questions in order to prepare them for the exam. Pupils will also need to undertake research outside of the lesson, as well and building on their programming skills within their own time. Pupils will also complete a number of topic tests which they will be expected to prepare for in their own time.

What is the course content and how is this assessed?

<u>AS Level</u>

Unit 1- (Written Exam) Fundamentals of Computer Science- This unit investigates topics such as computer architecture, communication, data representation, software applications, and the impact of computer science on society.

Unit 2- (On-screen Exam) Practical Programming to solve problems-This unit consists of a series of set tasks completed on-screen by candidates. These tasks will assess the practical application of knowledge and understanding and will require the use Python.

<u>A2 level</u>

Unit 3- (Written Exam) Programming & System Development -This unit investigates topics such as programs, data structures, algorithms, logic & programming methodologies

Unit 4 - (Written Exam) Computer Architecture, Data, Communications & Applications -This unit investigates topics such as computer architecture, communication, data representation, and software applications.

Unit 5- (Project/Coursework) – Programmed solution to a problem –pupils will discuss, investigate, design, prototype, refine and implement, test and evaluate a computerised solution to a problem chosen by the pupil which must be solved using original code (programming).

What could students go on to do at the end of this course?

In recent years pupils have gone on to study Computer Science at Aberystwyth University, Swansea University & University of South Wales. Other students have gone on to complete degrees in Software Engineering. For further information about what this course offers visit the link below:-
http://www.wjec.co.uk/qualifications/qualificationresources.html?subject=ComputerScience&level=GCEASA