Examination Board
OCR

Specific Course Requirements
It is expected that students enrolling onto this course will have gained at least Level 6 in GCSE Mathematics and a Level 6 in GCSE Computing.

Course Content

Computer Systems

- Characteristics of contemporary systems architecture: Components of a computer and their uses.
- Software and software development: Types of software and the methodologies used to develop them.
- Exchanging data: How data is exchanged between different systems.
- Data types, representation and structures: How data is represented and stored in different structures and the use of different algorithms.
- Legal, moral and ethical issues: Laws surrounding the use and ethical issues that can arise from the use of computers.

Algorithms and Programming

- Elements of computational thinking – What is meant by computational thinking?
- Problem solving and programming: How computers are used to solve problems and programs can be written to solve them.
- Algorithms: The use of algorithms to describe problems and standard algorithms.

Programming project
Candidates select their own user-driven problem of an appropriate size and complexity to solve. This will enable them to demonstrate the skills and knowledge necessary to meet the Assessment Objectives.

What do I need to know or be able to do this course?
The overall aim of the course is to encourage students to develop their knowledge and understanding of computer systems, the principles of computing (including programming) and how these are applied to the solution of problems. Computer Science is a practical subject where students can apply the academic principles learned in the classroom to real world systems. It is an intensely creative subject that combines invention and excitement, that can look at the natural world through a digital prism.

Computer Science will value computational thinking, helping learners to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence.

How will I be assessed on this course?
Computer systems - Externally marked 2 hours 30 minutes written examination – 40%.
Algorithims and programming - Externally marked 2 hours 30 minutes written examination – 40%.
Programming project – internally assessed – 20%

What could I do with a qualification in this subject?
This course has been designed for students who wish to go on to higher education courses or employment where knowledge of Computing would be beneficial. Students can study Computing and go on to a career in Medicine, Law, Business, Politics or any type of Science.

Sixth Form			
YG	**Autumn Term**	**Spring Term**	**Summer Term**
Y12	- Computational thinking. - Problem solving: programming techniques and algorithms. - Computer systems: programming language, Software, applications.	- Computer systems: data types, computer arithmetic, data structures, logic gates, Boolean algebra, databases, data transmission and the internet.	- Legal, ethical, moral and social issues - Preparation for computing project.
Y13	- Computer systems: further development of theory. - Computing project	- Examination technique and revision	