

COMPUTING:

The course is designed to help you develop an understanding of the fundamentals of computing and to provide you with the knowledge and skills suitable for participation in an evolving computer-dependent society. Computing provides you with opportunities to be at the forefront of these changes and, through your career, to play a role in the dynamic computer-based information society of the future.

Specifically you will examine in detail the hardware components of a computer system, including the way in which digital data flows around inside the central processing unit of a computer during the execution of a program. You will learn about the workings of various types of software from operating systems to utility programs and application development tools. You will learn about data representation, structure and management including the way in which information is manipulated by a computer using the binary number system. The technicalities of networking computers together are also covered in detail.

One of the main aspects of the Computing course is programming. You will develop knowledge and skills in a number of programming paradigms including low level assembly code, procedural programming, object oriented analysis and design (OOAD) and logic programming. You will create solutions to problems using a variety of high level development environments and programming languages. You will also learn to design solutions to problems with structure diagrams, data flow diagrams, flowcharts and pseudo-code.

The development of database applications also forms a major part of the course. You will analyse, design, build and test a fully working database application which includes several fully normalised tables, relational queries and a turn-key user interface.

An extensive exploration of the economic and legal implications of computers is also covered on this course.

No previous knowledge of Computing is assumed, although the specification develops the aims of GCSE specification in Information Communication Technology. To succeed you need to have a logical mind and be the type of person who is not satisfied with just knowing that computers are useful tools. You'll also want to know how exactly they work. Students of Computing are therefore expected to have achieved a grade B in Mathematics at GCSE.

Your subject knowledge will be tested exclusively via 2 written examinations at AS. At A2, you will be required to sit 2 written examinations and must also complete an extended coursework project which involves the analysis, design, implementation, testing and documentation of a new computerised solution for a real or fictitious client of your own choosing. Coursework makes up some 20% of the overall A Level grade.