

A Level Subject Information

Subject: Computing

What the subject is about:

The two main elements of A-level Computing are Computer Science and Programming. Computer Science involves the study of how computers work, ie. the role played by each of the various internal components of the computer and how the fetch execute cycle is used to run programs. Programming involves producing program designs (ie. algorithms) and writing computer programs in a high level programming language (eg. Pascal).

Course content and assessment schedule:

Paper	Duration	Season when first taken	Brief outline of main content. (Identify where coursework or practical forms part or all of a module)
1	2 hours (30%)	June	This module is tested using a practical on-screen examination designed to test the student's knowledge of the fundamentals of computing with particular emphasis on high level language programming, problem solving (including the writing of algorithms) and how data is stored in the computer (Binary).
2	1 hour (20%)	January	This module will be tested using a written paper consisting of short answer questions designed to test the student's knowledge of : <ul style="list-style-type: none"> • Boolean algebra and logic gates; • The internal components of a computer; • Hardware devices; • The structure of the Internet and network protocols; • The Consequences of the uses of Computing.
3	2 ½ hours (30%)	June	This module will be tested using a written paper consisting of short answer and extended answer questions designed to test the student's knowledge of : <ul style="list-style-type: none"> • Problem solving and algorithm design; • Data structures; • Object orientated programming techniques; • Operating systems; • Database design; • Communication and Networking.
4	Practical Project (20%)	June	This 'centre-assessed' project will require the student to demonstrate his/her ability to produce a computer-based programmed solution to a real problem. In particular they must document the analysis, design, construction, testing and maintenance of a programmed solution to a real problem.

Entry requirements:

Compulsory GCSE subjects	Grade	Desirable subjects	Grade
Mathematics	A	ICT	A
		Additional Maths	B

Qualities / skills needed to succeed in the course

Computing is aimed at students with good problem solving and logical ability. Students who are good at and enjoy Maths and Science (in particular Physics) will usually have the skills required to achieve a good grade in A level Computing. Project work is an important element of A2 Computing therefore only students who enjoy project work and have a record of producing high quality project work at GCSE level should opt for this subject.