



Information & Communications Technology

Aims

- To foster an understanding of computers as two-state machines, capable of executing a wide range of software.
- To engender an appreciation of the benefits and dangers inherent in the use of computers.
- To teach the theoretical and practical fundamentals of software design and hardware use.

Objectives

- To develop students' information-handling skills.
- To develop students' analytical skills.
- To develop the facility to discriminate between software applications and their uses.
- To develop an understanding of the effects of increasing computer use within society.
- To learn to apply ICT techniques selectively.

Organisation

The ICT Department is located in purpose-built accommodation. Pupils have access to three networked rooms housing 70 PCs. The platform used is Windows XP PRO. The principal applications suite supported is MS Office 2003 and MS Office 2007, while the preferred development language is Visual Basic. In addition, subject-specific software is also available, as is regulated access to the Internet. All ICT rooms possess digital projectors and interactive whiteboards are available.

Who studies what and when?

Years 7-9

Students learn to develop their comprehension of ICT through the coverage of a series of topics. Each topic introduces aspects of underpinning ICT theory. Alongside acquisition of practical skills, students learn to understand and assess the contexts within which ICT techniques are increasingly used. Students also learn how to solve problems by using flowchart techniques. A series of tasks enables students to develop their skills as they progress from Year 7 to Year 9. Students are given the opportunity to demonstrate achievement within each of the main strands:

- Communicating information;
- Managing information;
- Controlling, monitoring and measuring;
- Modelling.

The fast-changing world of ICT means that across these four principal strands, pupils will also gain experience of multimedia technologies comprising web design and podcast creation.

Additionally, an on-line tutorial application called "Complete ICT" is used to supplement classroom study. This web-based package allows pupils to continue working on assignments commenced in class, at home, thereby promoting independent learning.

Years 10-11

Both the information-handling aspects of using computers, as well as their use as programmable machines, are covered. Students learn to apply applications software to a series of coursework tasks and also learn to write their own software. The practical skills learnt enable students to meet the 60% coursework loading.

The theory underpinning the competent use of computers is taught alongside the acquisition of problem solving and programming techniques.

Syllabus: AQA 3521 Information and Communication Technology

LVI and UVI

Post-GCSE Computing reflects both the applications of computers within society and the theoretical principles of computer science. Both low and high-level programming are taught, providing the foundation required for successful completion of the practical coursework component. Students learn problem-solving techniques through the creation of flowcharts (system and program), data-flow diagrams, algorithms and program code.

At this level, the subject covers machine architecture and the ability to program. It is a fascinating course enabling students to develop maturity of outlook and independence of thought. Prospective students are encouraged to read widely in order to understand that the examination questions posed expect students to have developed the skills to apply knowledge to a given context. Factual recall by itself is not enough!

It is an ideal progression subject for those who have successfully completed GCSE ICT and provides balance in a mix of A Level subject choices. It is, however, not essential to have studied GCSE ICT in order to take Computing.