

Name of Course	Computing
Examination Board	AQA (8525)
<p>What is Computing?</p> <p>With computing you will acquire an in-depth understanding of how computer technology works and how it is used. You will learn how computational thinking is used to produce solutions to problems and how programmes are developed to implement these solutions. The course requires a good grasp of mathematics, resilience, and the ability to grasp new and abstract concepts.</p>	
<p>What skills will I learn?</p> <ul style="list-style-type: none"> • Critical and computational thinking • Analysis • Problem solving • Testing and evaluating a program • Technical Report writing • Standard computer programming techniques • Designing and writing a computer program • Planning and carrying out a practical investigation 	
<p>What will I do in Computing?</p> <ul style="list-style-type: none"> • Investigate and understand the fundamentals of a computer system – Hardware, Binary logic, Memory, Input and Output devices and Secondary Storage media. • Understand the term software, and explain the various functions it has in a Computer System • Understand how data is represented in Computer Systems (e.g. in bits & bytes, binary, hexadecimal, ASCII, etc.) • Understand Computer communications and networking including the Internet. • Understand Programming essentials – Plan and write Algorithms, Use a variety of programming languages, Control the flow of imperative languages through use of numerous techniques, Handle data in Algorithms, learn to test programs effectively. • Prototyping and testing – you will learn how to plan programs before writing them and how to plan and carry out thorough testing so you can evaluate the success of your programming. • Understand the fundamentals of Cyber Security - threats, social engineering, measures taken to combat malicious activity. • Learn to explain the current ethical, legal and environmental impacts and risks of digital technology on society. 	
<p>How will I be assessed?</p> <ul style="list-style-type: none"> • Two written examinations, equally weighted at 50%: <ul style="list-style-type: none"> o Paper 1: Computational thinking & programming skills - Written exam: 2 hours, 90 marks o Paper 2: Computing Concepts - Written exam: 1 hour 45 minutes, 90 marks • One programming project and written report totalling 20 hours of timetabled work. • Written exams cover: Computational thinking, problem solving, code tracing and applied computing; theoretical knowledge of computer science. 	

- The project consists of the development of a computer program along with the computer programming code itself which has been designed, written and tested by the student to solve a problem. Students will produce an original report outlining this development.

Particular issues for this subject

This course will appeal to students who have an interest in technology and want to know how things work, particularly how to program a computer. It is an excellent foundation for those with an interest in technology and technology-related careers. It will also develop critical thinking, analysis and problem-solving skills which are of use in many other subjects and day-to-day life. A solid foundation in maths is recommended due to the level of challenge presented by the Computational Thinking exam paper and the Project Report element of the practical programming task.

This is a very technical subject and should not be confused with ICT disciplines, which focus on the use of computers as productivity tools. Students should discuss the course with Mr Holder before submitting options forms to ensure that they understand fully the nature of the course.

Useful Websites etc.

[AQA Computer Science](#)

Resources

N/A – All provided by school or available online

For further information contact Mr Holder