

## **COMPUTER SCIENCE A LEVEL**

### **WHAT WILL I STUDY?**

This course is designed to introduce you to the principles of Computational Thinking and Software Engineering which help prepare you for a career in the Digital Age. The first year will give you a general introduction to the subject. Your studies will include how Binary and Boolean Arithmetic are used to aid the design of faster processors, the different computer architectures available, Core Network Theory, basic CSS as well as programming in Microsoft C# using Visual Studio.

In the second year, your studies will include the key algorithms and principles upon which modern Computing is based. You will study the mathematics of algorithm performance and basic principles of computational Science including topics as Stacks, Queues, Hashtables, Binary Trees, Relational Databases, Object Oriented as well as Functional Programming. You will explore the mathematics of Vectors, used in Games and Visual Effects Programming, as well as set theory related to regular expressions. This course is fast-moving and challenging. It will appeal to you if you enjoy solving mathematical problems, have a logical way of thinking and enjoy either building things or figuring out how things work. The course assumes no prior knowledge of programming. Students with prior programming experience will find a range of activities to stretch, challenge and innovate.

### **WHAT NEXT?**

A key subject for students planning to continue on to university to study subjects including computer science, software engineering, information systems, music technology, computer game design and programming, networking and electronics. Alternatively, students may consider direct entry into related employment.

### **ASSESSMENT**

Coursework (20%) Exam (80%)

### **DURATION**

2 years

### **ENTRY REQUIREMENTS**

Standard entry requirements, plus GCSE grades 4 in English and 6 in Maths. Grade 4 in Computing in lieu of GCSE 6 in Maths.

### **EXAM BOARD**

AQA

### **COSTS**

£32.99 for textbooks