

Computer Science



Why Study A Level Computer Science?

The course has an emphasis on computational thinking. Computational thinking is a kind of reasoning used by both humans and machines. Thinking computationally is an important life skill. The study of computation is about what can be computed and how to compute it. Computer Science involves questions that

have the potential to change how we view the world. This subject will be studied at The Thomas Alleyne Academy.

Computing / Computer Science is about designing new algorithms to solve new problems. In this sense Computer Science is no more about computers than astronomy is about telescopes. Many great challenges lie in the future for Computer Scientists to solve. This course, with its emphasis on abstract thinking, general problem-solving, algorithmic and mathematical reasoning, scientific and engineering-based thinking, is a good foundation for understanding these future challenges.

Course Content

The first year specification includes two units. Unit 1 is a practical, on-screen, examination which allows students to demonstrate their knowledge of the fundamental principles of the subject, focusing on programming through a problem-solving scenario using pre-release material. Unit 2 focuses on the hardware and software aspects of Computing and the social and economic consequences of Computing.

The second year specification builds on this content, with Unit 3 focusing on computational thinking, what can be computed, programming and problem-solving including communication and networking. Unit 4 is an internally assessed unit, with students required to complete a report on a computer-based programmed solution to a problem-solving exercise of their choice.

Assessment

The course is assessed through exams taken at the end of two years of study.

Exam Board

AQA

Progression

The course specification has been designed for students who wish to go on to higher education courses or employment where knowledge of Computing would be beneficial. One can study Computing and go on to a career in medicine, law, business, politics or any type of science.