

OCR A-Level Computer Science

Head of Department: Mr. G. Taylor

Department Information

Up to date Intel NUC Computers specifically for Computing & ICT students. Software and resources supporting a range of Computing Disciplines from Games Programming (Unity, GameMaker), AI and Drone Development, AR/VR App Development, Software and App Development (Visual Studio 2012) to software packages including Photoshop, Macromedia, Office

Why study this course?

Studying Computer Science will open doors for courses including: Computer Programmer, Application Developer, Software Engineer, Games Designer, Web Developer, Computer Science Lecturer/Teacher.

Aims of the course

To produce programmers equipped with an understanding of:

- fundamental computational concepts underlying most programming languages
- a range of problem solving techniques using computers
- the role of programming within the overall software development process
- attitudes and working practices appropriate for a professional programmer

Course outline

Students undertake three units during the A Level Computer Science course, two theory units and a practical based unit.

Component 1	Component 2:	Component 3:
The characteristics of contemporary processors, input, output and storage devices Software and software development Exchanging data Data types, data structures and algorithms Legal, moral, cultural and ethical issues	Elements of computational thinking Programming and problem solving Pattern recognition, abstraction and decomposition Algorithm design and efficiency Standard algorithms.	Individual project: Design and develop a solution to a problem of their own choosing. Students are open to create an app, software package or an executable program that will solve a real world problem. They will communicate with a real end user to ensure specific criteria is met.

How am I assessed?

Written examination (Component 1) (40%)

Written examination (Component 2) (40%)

Individual Project (Component 3) (20%)

Where does this course lead?

A wide range of professions including Programmer, Application Developer, Software Engineer, Games Designer, Web Developer, Computer Science Lecturer/Teacher