

**Department Title:**

Computing

**Department Vision:**

The primary aim of the Computing department is to provide students with the opportunity to embrace technology and to inspire them within the subject. Our students enjoy learning about how computers function as well as the challenge of problem solving, and this subject provides the perfect platform for them to discover their full potential within the area of Computer Science.

**Year 7:**

During Year 7, students receive 2 fifty minute lessons a fortnight where they are introduced to a wide range of ICT and Computer Science skills necessary to build their confidence in the subject. The following topics are the basis of what is covered in Year 7:

- E-Safety - online safety and cyberbullying
- All About Me – Presenting information using MovieMaker
- Students create a Quiz using a range of functions in Excel
- Students learn about Control Systems using Flowol to prepare for programming concepts and algorithms
- Learning about Graphics
- Introduction to programming - Create a Game in Scratch

**Year 8:**

During Year 8, students receive 2 fifty minute lessons a fortnight where they are able to learn a wide range of ICT and Computer Science skills necessary for a solid foundation and preparation for Key stage 4. The following topics are the basis of what is covered in Year 8:

- An introduction to Computer Programming using Python
- Build Your Own PC Project – Learn about the range of Computer Hardware / Software
- Students learn to build their own WebPages using HTML & Cascading Style Sheets
- Graphics Project – small action, big change.
- Basic fundamentals of Databases – mini project involving storage, retrieval, search and presentation of information.
- Advanced Scratch – being able to program and flying a Drone

**Year 9:**

During Year 9, students receive 2 fifty minute lessons a fortnight where they are able to develop their skills and knowledge across wide range of ICT and Computer Science skills necessary for a solid foundation and preparation for Key stage 4. The following topics are the basis of what is covered in Year 9:

- Advanced Computer Programming using Python
- Computational Thinking - Board Game Project
- Programming using JavaScript
- Storing Information - Binary

**Year 10—11:**

Students in Year 10 have the opportunity to study the OCR GCSE Computing. It is a challenging course but it builds on the knowledge gained at Key Stage 3 with a focus on computer architecture, analysis and problem solving as well as computer programming.

This new GCSE specification is split into three components:

Component 01 – Computer Systems (50% of total GCSE)

This component mainly focuses with the physical aspects of the computer, computer architecture and networking.

Component 02 – Computational Thinking, Algorithms and Programming (50% of total GCSE) This components focuses on the theory of programming; including programming techniques and developing robust programs.

Component 03 – Programming Project (non-exam assessment). A non-examined component where students programming knowledge and skills are put into practise in order to develop engaging solutions.

### Sixth Form:

The aims and objectives of the Advanced GCE in Computing are to give learners an in-depth understanding of how computer technology works. The A Level provides excellent preparation for those students that plan to go onto higher study and employment in the field of Computer Science. The A Level Computing course builds on the skills acquired during the GCSE course and helps to further develop a logical approach to problem-solving skills, a greater understanding of how computer systems work as well as critical thinking through the study of computer programming.

This new A Level specification is split into three components:

Computer systems (01) 40% of the A Level - written paper

Algorithms and programming (02) 40% of the A Level - written paper

Programming project (03) 20% of the A Level - non-exam assessment

### Related Careers:

- Games Developer
- IT Consultant
- Programmer
- Network Engineer
- Systems Analyst
- Software Engineer
- Cyber Security Specialist
- Technology Analyst
- Web Developer