

Computing

Exam Board: WJEC

Computers are widely used in all aspects of government, business, industry, education, leisure and the home. In this increasingly technological age, a study of Computing, and particularly how computers are used in the solution of a variety of problems, is not only valuable to the students themselves but also essential to the future well-being of the country.

Computing integrates well with Science and Mathematical subjects. Whilst there is no specific requirement for prior learning, the course:

- Demands both logical discipline and imaginative creativity in the selection and design of algorithms and the writing, testing and debugging of programs.
- Relies on an understanding of the rules of a programming language at a simple level.
- Encourages an awareness of the management and organisation of computer systems including software, hardware, data, communications and people.
- Develops an understanding of the consequences of uses of computing, including social, legal, ethical and other issues.
- Extends students' horizons beyond the school environment in the appreciation of the effects of computer applications on society and individuals.

Students are encouraged to develop a broad range of skills and knowledge of computing as a basis for progression into further learning, including progression from AS to A2, and/or employment in computing-related fields.

Minimum Entry Requirements

- A minimum of 6 A* to C grades at GCSE
- Additionally students must have either a **B** in Computing [if sat] or a **B** in Mathematics otherwise.

If you have any queries, please contact Dr K Allen (Head of Faculty).

Level 3 Diploma

AS course

Unit 1: Fundamentals of Computer Science.

Written Examination (25% of qualification)

- This unit investigates computer architecture, communication, data representation, data structures, software applications, programs, algorithms, logic, programming methodologies and the impact of computer science on society.

Unit 2: Practical Programming to Solve Problems.

On-screen examination (15% of qualification)

- This unit consists of a series of set tasks completed on-screen by candidates.
- These tasks will assess the practical application of knowledge and understanding and will require the use of Visual Basic.NET, Python or Java as a programming language.

A2 course

Unit 3: Programming and Systems Development.

Written Examination (20% of qualification)

- This unit investigates programs, data structures, algorithms, logic, programming methodologies and the impact of computer science on society.

Unit 4: Computer Architecture.

Unit 3: Programming and Systems Development.

Written Examination (20% of qualification)

- This unit investigates computer architecture, communication, data representation, organisation and structure of data, programs, algorithms and software applications

Unit 5: Programming Solution to a Problem

Non-exam assessment (20% of qualification)

- Candidates discuss, investigate, design, prototype, refine and implement, test and evaluate a computerised solution to a problem chosen by the candidate which must be solved using original code (programming).
- This is a substantial piece of work, undertaken over an extended period.