

COMPUTER SCIENCE

WJEC A LEVEL

Computers are widely used in all aspects of business, industry, government, education, leisure and the home. In this increasingly technological age, a study of computer science is not only valuable to the learner but also essential to the future well-being of the country. In this course students learn the principles of computation and algorithms, computer programming, machine data representation, computer systems (hardware and software), computer organisation and architecture, communications and networking, databases and the consequences of using computing.

The Course Involves:

Year One:

Unit 1 - Written Examination - 25%

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 - On-screen Examination - 15%

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.

Year Two:

The A Level specification builds on the content of AS and consists of three units, similar to the AS modules but in more depth and detail.

Assessment AS

Unit 1 - Fundamentals of Computer Science (2-hour exam) - 25%

Unit 2 - Practical Programming to Solve Problems (2-hour on-screen exam) - 15%

Assessment A Level

Unit 3 - Programming and System Development (2-hour exam) - 20%

Unit 4 - Computer Architecture, Data & Communications (2-hour exam) - 20%

Unit 5 - Programmed Solutions to a Problem (Non-exam assessment) - 20%

Particular Subjects, Skills or Interests

The course will enable students to design and produce their own programs for realistic situations. GCSE Computer Science is not essential. A grade B/6 in GCSE Mathematics and English are required.

Post-18 Opportunities

The Computer Science course is intended for those students who intend to take up careers such as Computer Programming, Computer Systems Engineering, Systems Analysis, all Engineering disciplines and Scientific/Mathematical related careers. The subject also has a strong connection with many other disciplines: Mathematics, Further Mathematics, Physics and Economics.

Subject Leader: Mr R Collins

Subject Champions

2021/22



Nia Hawkins

Studying: Welsh Baccalaureate, Computer Science, Maths, Chemistry and Biology.

Future aspirations: to study computer science at university.

Michael Spoor

Studying: Welsh Baccalaureate, Biology, Computer Science, Maths and Physics.

Future aspirations: to study at university.

“Computer Science is perfect for learning how computer systems and networks work. We love that we get to learn a new and modern programming language to build our own computer programs to solve real world problems. We have always had a passion for coding and Computer Science and hope to pursue our future careers in the field of Computer Science.”