



Computer Science

QUALIFICATION: A-LEVEL

Welcome to Computer Science, it is an intensely creative subject that combines invention

with excitement and allows students to look at the natural world through a digital prism. The course has been designed in consultation with leading universities and Industry experts for students who wish to go on to Higher Education courses or employment where knowledge of Computing is beneficial. Students who study Computing can go on to a career in Medicine, Law, Business, Politics or any type of Science.

This course has been designed to meet entry requirements for computing-based degrees. There is currently a significant shortage of computing graduates and, as computing/ information systems are now a fundamental part of most organisations, the opportunities are almost endless. Computing graduates can be involved in many aspects of the computing industry, including, games design, web creation, software engineering or teaching computer science. However, they do not necessarily go on to just computer-based careers. The problem-solving approach developed through the study of computing and computer science is valued in many career paths, such as marketing, finance, health and other engineering and science disciplines.

AS COMPUTER SCIENCE

Paper 1

What's Assessed

1. Fundamentals of programming
2. Fundamentals of data structures
3. Systematic approach to problem solving
4. Theory of computation

Assessed

- On-screen exam: 1 hour 30 minutes
- 50% of AS

Questions

Students answer a series of short questions and write/adapt/extend programs in an Electronic Answer Document provided by us. We will issue Preliminary Material, a Skeleton Program (available in each of the Programming Languages) and, where appropriate, test data, for use in the exam.

Paper 2

What's Assessed

This paper tests a student's ability to answer questions from subject content:

1. Fundamentals of data representation
2. Fundamentals of computer systems
3. Fundamentals of computer organisation and architecture
4. Consequences of uses of computing
5. Fundamentals of communication and networking

Assessed

- Written exam: 1 hour 30 minutes
- 50% of AS

Questions

A series of short-answer and extended- answer questions.

A2 COMPUTER SCIENCE

Paper 1

What's Assessed

This paper tests a student's ability to program, as well as their theoretical knowledge of Computer Science from subject content and the relevant skills required.

Assessed

- On-screen exam: 2 hours 30 minutes
- 40% of A-level

Questions

Students answer a series of short questions and write/adapt/extend programs in an Electronic Answer Document provided by the exam board. They will issue Preliminary Material, a Skeleton Program (available in each of the Programming Languages) and, where appropriate, test data, for use in the exam.

Paper 2

What's Assessed

This paper tests a student's ability to answer questions from subject content.

Assessed

- Written exam: 2 hours 30 minutes
- 40% of A-level

Questions

Compulsory short-answer and extended-answer questions.

Non-exam assessment

What's assessed: the non-exam assessment assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem. Students will be expected to follow a systematic approach to problem solving.

Assessed

- 75 marks
- 20% of A-level

Subject content

1. Fundamentals of programming
2. Fundamentals of data structures
3. Fundamentals of algorithms
4. Theory of computation
5. Fundamentals of data representation
6. Fundamentals of computer systems
7. Fundamentals of computer organisation and architecture
8. Consequences of uses of computing
9. Fundamentals of communication and networkin
10. Fundamentals of databases
11. Big Data
12. Fundamentals of functional programming
13. Systematic approach to problem solving
14. Non-exam assessment - the computing practical project

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SIXTH FORM VISIT

GIRLS' SCHOOL VISIT

BOYS' SCHOOL VISIT