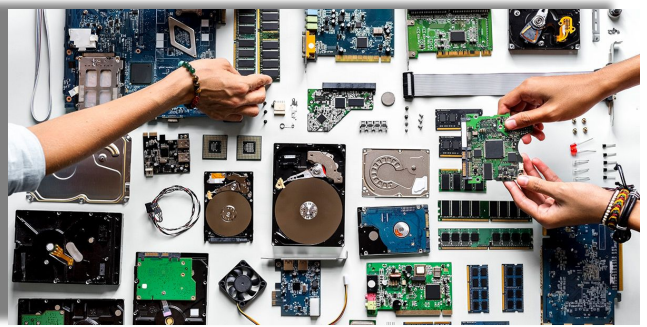
Computer Science

OCR
J277

What is this course about?

1. Understanding and applying the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation
2. Analysing problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs
3. Thinking creatively, innovatively, analytically, logically and critically
4. Understanding the components that make up digital systems, and how they communicate with one another
5. Understanding the impacts of digital technology to the individual and to wider society



What will I learn?

J277/01: Computer systems

This component will assess:

- 1.1 Systems architecture
- 1.2 Memory and storage
- 1.3 Computer networks, connections and protocols
- 1.4 Network security
- 1.5 Systems software
- 1.6 Ethical, legal, cultural and environmental impacts of digital technology

J277/02: Computational thinking, algorithms and programming

This component will assess:

- 2.1 Algorithms
- 2.2 Programming fundamentals
- 2.3 Producing robust programs
- 2.4 Boolean logic
- 2.5 Programming languages and Integrated Development Environments

How will I be assessed?

J277/01: Computer systems

This component will assess:

- 1.1 Systems architecture
- 1.2 Memory and storage
- 1.3 Computer networks, connections and protocols
- 1.4 Network security
- 1.5 Systems software
- 1.6 Ethical, legal, cultural and environmental impacts of digital technology

Written paper: 1 hour and 30 minutes
50% of total GCSE
80 marks

This is a non-calculator paper.

All questions are mandatory.

This paper consists of multiple choice questions, short response questions and extended response questions.

J277/02: Computational thinking, algorithms and programming

This component will assess:

- 2.1 Algorithms
- 2.2 Programming fundamentals
- 2.3 Producing robust programs
- 2.4 Boolean logic
- 2.5 Programming languages and Integrated Development Environments

Written paper: 1 hour and 30 minutes
50% of total GCSE
80 marks

This is a non-calculator paper.

This paper has two sections: Section A and Section B. Students must answer both sections.

All questions are mandatory.

In Section B, questions assessing students' ability to write or refine algorithms must be answered using **either** the OCR Exam Reference Language **or** the high-level programming language they are familiar with.

Where could this course take me in the future?

- Application analyst
- Applications developer
- Cyber security analyst
- Data analyst
- Forensic computer analyst
- Game designer
- Games developer
- Machine learning engineer
- Penetration tester
- Software engineer
- Systems analyst
- Web designer
- Web developer