J277GCSE Computer Science 2024 - 2026

Wigston Academy

Examination Board

OCR

What will I be studying?

Two written paper marked by OCR.

Components 1 - Paper 1 (Computer Systems): 50% (1hr 30mins). This unit introduces students to the central processing unit (CPU), computer memory and storage, wired and wireless networks, network topologies, system security and system software. It also looks at ethical, legal, cultural and environmental concerns associated with computer science.

Components 2 - Paper 2 (Computational thinking, algorithms and programming): 50% (1hr 30mins). In this unit students apply knowledge and understanding gained in Component 1. They develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic, translators and data representation. The skills and knowledge developed within this component will support the learner when completing the Programming Project.

How will I be studying?

Students will have a 3 lessons per week with one lesson concentrating on programming and the two others theory type lesson. In the programming lessons, students use previous OCR Programming Project tasks to develop their practical ability in the skills developed in Components 1 and 2. They will have the opportunity to define success criteria from a given problem, and then create suitable algorithms to achieve the success criteria. Students then code their solutions in a suitable programming language, and check its functionality using a suitable and documented test plan. Finally, they will evaluate the success of their solution and reflect on potential developments for the future. The Programming Project does not count towards a candidate's final grade but is a requirement of the course.

How will I be assessed?

Component 1: **Paper 1 (Computer Systems):** 50% (1hr 30mins) written examination. Students will sit this paper at the end of year 11.

Component 2 – Paper 2 (Computational thinking, algorithms and programming): 50% (1hr 30mins) written examination. Students will sit this paper at the end of year 11.

Where Next?

Computer Science has strong ties with the fields of Maths, Science, Design and Engineering. It is a wonderful way to develop critical thinking, analysis, and problem-solving skills, which can be transferred to further learning and to everyday life.

Students who want to go on to higher study and employment in the field of computer science and engineering will find it provides a superb steppingstone to many contemporary careers. It is also highly regarded as demonstrating a level of expertise and critical thinking by a wide range of professions.

There is a huge shortage of skilled engineers, designers, and programmers both in the UK and overseas. With internet and mobile technology developing and merging with other professions at such a rapid pace there are, and will be for years to come, many diverse careers and opportunities available in these fields in the future.

For further information, please contact Mrs Nemaura via mnemaura@wigstonmat.org