

Subject: Computer Science



Head of Department: M Acquah

Course Content Covered

Component 01: Computer Systems

- The Central Processing Unit (CPU)
- Computer Memory and Storage
- Data Representation
- Wired and Wireless Networks
- Network Topologies
- System Security and System Software.
- The Ethical, Legal, Cultural and Environmental Concerns associated with Computer Science.

Course Content Covered

Component 02: Computational

- Thinking, Algorithms and Programming
- Computational Thinking
- Algorithms
- Programming techniques
- Producing Robust Programs
- Computational Logic and Translators

Subject: Computer Science

Content still to be covered

Practical Programming

- Programming tasks to aimed at developing programming and computational skills aimed:
- To design,
- Write
- Test and
- Refining programs using a High-level programming language.

Note:

- Students will be assessed on these skills during the written examinations, in particular Component 02 (Section B).

Content still to be covered

- Mock CA
- Revision of last year's topics.
- Programming Project (Set by the Exam Board).

Believe, Strive, Succeed

Corinthians 1:12:12 'the body is one and has many members, and all the members of the body, though many, are one body'

Exam Requirements: OCR Computer Science 9-1

Content Overview

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

Assessment Overview

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.

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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.

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Exam Requirements OCR Computer Science 9-1

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Online Learning Platforms/Useful Websites

- Google Classroom Platform
- E-revision for daily practice of Exam Style Questions
- Online Assessment Tasks
- Bitesize GCSE Computer Science
- Craig and Dave Mini videos

<https://student.craigndave.org/gcse-videos>

- J277 Programming techniques: Python
- A guide to Programming Techniques Using Python.
- Code Academy
- J277 Unit 7: Programming - GCSE OCR - PG Onlinehtt
- List placed on Google Classroom

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Parental Support

- Ensuring homework set is complete - Home learning set will be based on topics taught in lesson to consolidate understanding. Parent support is greatly appreciated.
- Completion of daily E-revision tasks set by teacher (To track progress, assess & fill gaps in knowledge)
- Encouraging students to use the revision textbooks and workbooks given them in class.
- Purchase and use of Computer Science Student books put on parent pay to consolidate their knowledge and understanding of Computing theory and programming concepts.
- Ensuring that students complete programming challenges set.
- Encouraging students to patronise Breakfast and Lunch Time Intervention Sessions

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Key Information (Upcoming Assessment)

- Time is currently being spent revising prior topics as the students have covered all the required units.
- There will be regular assessment of the knowledge associated with these units, along with additional homework and diagnostic assessments to allow students apply their skills and understanding as well as improve exam techniques.
- Information from classwork, homework and diagnostic assessments will be used to inform future teaching and interventions throughout the academic year.
- During the trial exam period, students will sit two full papers and solve a computational problem - undertake a programming project.

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