GCSE Computer Science

Examination Board OCR

Specification Number J277

Specification Document OCR J277 Specification document

What makes up the course?

The course is an optional subject where students learn how computer systems work and the use of algorithms and problem-solving techniques to overcome a situation. This includes the undertaking of programming challenges to development a computational solution.

Unit 1
50%
1hr 30 mins Exam

Computer Systems
Students learn about how computers function/operate, how data is stored and the impact of using computers

- System Architecture
- Memory and Storage
- Computer Networks, connections, and protocols
- Network Security
- System Software
- Ethical, legal, cultural and environmental impacts of digital technology

The paper consists of multiple-choice questions, short response questions and extended response questions relating to the above forementioned topics.

Unit 2
50%
1hr 30 mins Exam

Algorithms and programming
Students learn about different algorithms and problem-solving techniques, including the application of these using python program code

- Algorithms
- Programming Fundamentals
- Producing Robust Programs
- Boolean Logic
- Programming Languages and Integrated Development Environments

The paper has 2 sections; Section A and Section B. Students must answer both sections. In Section B, questions assessing student's ability to write or refine algorithms must be answered using OCR Exam Reference Language or a high-level programming language they are familiar with (e.g., Python)

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Programming Practice
Students are given the opportunity to develop their problem-solving skills and undertake a programming task to solve a problem. This will draw upon skills and knowledge developed across Unit 1 and Unit 2.

Assessment

Both Units 1 and 2 are externally assessed examinations at the end of year 11 and are non-calculator papers. Although Unit 2 has a focus on algorithms and problem-solving, students will undertake questions relating to algorithms in Unit 1 as well.

Students are given exam questions regularly throughout the course to help them develop their skills at answering them. They are encouraged to always attempt questions as they are not penalised for incorrect answers.

Practice your programming ability by:

- **Using python at home to write your own programs**
- **Completing python challenges available on google classroom**
- **Working through the python techniques workbook**
- **Trying to improve past programs with more advanced features**

You can download python for free onto your own device, or use an online version at: https://replit.com/languages/python

Review lesson content and topics by:

- **Watching Craig n Dave videos and making notes**
- **Going through the lesson PowerPoints available on google classroom**
- **Visit BBC bitesize**
- **Review lesson notes and purple pen exams and feedback/follow on tasks**
- **Keeping lesson notes organised**

Links to useful sources of information:
https://student.craigndave.org/gcse-ocr-j277-computer-science-videos

https://www.bbc.co.uk/bitesize/examspecs/zmtchbk

How to revise Computer Science

In lessons students will regularly complete tasks and make notes to help them develop their knowledge and skills for the subject. All notes from lessons should be completed to help students prepare for examinations, even when absent.

Students are regularly assessed in lessons through exam question practice and smaller topic-based assessments

At home students should be regularly revising by:

Practice Programming **Reviewing lesson content**
Creating revision material **Practicing exam questions**

Create revision material by:

- **Watching Craig n Dave videos and making notes**
- **Re-writing your notes in different formats e.g. flash cards and mind maps**
- **Writing questions (using assessment and follow-on tasks) and test on them with a friend**

Practice exam questions by:

- **Completing exam questions in lessons, including purple pen review**
- **Look back at exam questions from past assessments**
- **Independently complete questions from past papers and check answers using mark schemes**
- **Use online practice questions such as SENECA**