



Curriculum Overview

Curriculum Area: Computing

Year: 11

Curriculum covered

Autumn Term:

All pupils will learn about Computer Networks and topologies, including layouts and roles of servers and different computers on wired and wireless networks. The pupils will learn about wired and wireless connections and the hardware required is investigated and the modes to connect to computers using protocols to communicate over the internet. They will also learn about defensive design and maintaining programs are studied including: Anticipating misuse, Authentication, and Input validation. Pupils learn the purpose and types of testing on programs, including suitable test data and syntax errors. They learn about Boolean logic diagrams using the operators AND, OR and NOT and truth tables and how to use them to solve problems.

Spring Term:

All pupils learn about threats to computer systems and networks and the forms of attack and the common methods to prevent them. The pupils will learn how to use standard searching algorithms such as binary and linear searches and bubble, insertion and merge sorts. Programming consolidation project is attempted. Revision is prioritised this term for Mock 1 papers for both Computers systems and Computational Thinking and Algorithms.

Summer Term

All pupils commence revision on systems software, Boolean logic and computer ethics. This is followed by networks and topologies and protocols to consolidate Year 1 and Year 2. This connects with Network security. Programming languages and IDEs are revised together with Boolean logic. Revision is then prioritised for Mock 2 papers and the year consolidated with a final programming session

Internal Assessment

All pupils will be regularly assessed throughout each area of study. All pupils will complete practice exam assessment questions either during class or as part of homework.

All pupils will complete a Mock Paper 1 on Computer Systems and a Mock Paper 1 on Computational Thinking and Algorithms in Term 1.

Pupils will also complete a Mock Paper 2 on Computer Systems and a Mock Paper 2 on Computational Thinking and Algorithms in the Spring 2.

Exam Board/Exam Paper Requirements/% Weighting

Key dates (mocks and final exams)

J277/01: Computer systems

This is a compulsory component. It is worth 80 marks representing 50% of the total marks for the GCSE (9–1).

This component is an externally assessed written examination testing AO1 and AO2. The examination lasts 1 hour 30 minutes.

J277/02: Computational thinking, algorithms and programming

This is a compulsory component. It is worth 80 marks representing 50% of the total marks for the GCSE (9–1).

This component is an externally assessed written examination testing AO1, AO2 and AO3. The examination lasts 1 hour 30 minutes and is formed of two sections.

Practical Programming skills will be assessed in Component 2 of the qualification

This is evidenced by way of a portfolio of study in school.

Helpful resources/revision guides/websites/exam preparation

Online - each component has a Synergy revision section on the course for all pupils. Boost online learning is used to provide selected lessons and assessments including exam questions

SENECA online learning is used to supplement Computer science theory
eRevision is used for exam preparation and homework.

All pupils are issued with revision guides as an integral part of the course and used in lessons:

CGP revision books are provided by the department as follows:

GCSE OCR Computer science Complete revision and practice

GCSE OCR Computer science Revision guide

GCSE OCR Computer science Exam practice workbook

GCSE OCR Computer science 10-minute tests