GCSE OCR Computer Science Learning Journey

Curriculum intent: 1. understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation 2. analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs 3. think creatively, innovatively, analytically, logically and critically 4. understand the components that make up digital systems, and how they communicate with one another and with other systems 5. understand the impacts of digital technology to the individual and to wider society 6. apply mathematical skills relevant to Computer Science.

William Edwards School
'Inspirational learning with a strong sporting ethos'

Prior knowledge, learning and progression

Pupils at William Edwards school follow a KS3 program that is designed to prepare them for a GCSE in computing. The topics listed at KS3 are built upon in KS4, and further develop the key knowledge and skills to progress into KS5.

Practical Programming
All students must be given the opportunity to undertake a programming task(s), either to a specification or to solve a problem (or problems), during their course of study. Students may draw on some of the content in both components when engaged in Practical Programming.

KEY STAGE 5

REVISION AND EXAM PRACTICE

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.

MOCK 3 | EXAM STYLE QUESTIONS

1.6 – Ethical, legal, cultural and environmental impacts of digital technology

MOCK 2

2.3.2 Testing

2.5.2 The Integrated Development Environment (IDE)

2.5.1 Languages

E-safety

2.4.1 Boolean logic

YEAR 10 END OF YEAR EXAMS

YEAR 11

MOCK 1

2.1.3 Searching and sorting algorithms

2.2.3 Additional programming techniques

2.3.1 Defensive design

1.4 – Network Security
1.5 – Systems software

Iteration

Introduction to 2.5.2 The Integrated Development Environment (IDE) and 2.5.1 Languages

2.1.1 Computational thinking

1.3 Computer Networks

2.2.1 Programming fundamentals

2.2.2 Data types

1.1 – Systems architecture
1.2 – Memory and storage

E-safety

Fundamental principles of Computer programming

Selection

Year 9 Options Evening

Options Carousel

YEAR 10

YEAR 9 OPTIONS GUIDANCE

SLT options interviews

Year 9 Reports to Parents

Options bookle

1 Principles of Programming

2 Problem Solving

3 Application of Computing

KS3 IT

4 Ethical use of Computing

YEAR KS3

= Unit Assessments

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