COMPUTER SCIENCE

Specification J276

Birmingham Ormiston Academy
imagine everything

Course overview:

This specification/qualification will enable learners to develop valuable thinking and programming skills that are extremely attractive in the modern workplace. You will develop a deep understanding of computational thinking and how to apply it through a chosen programming language.

RaspberryPi

python

OCR's GCSE (9–1) in Computer Science will encourage you to:

- Understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation
- Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs
- Think creatively, innovatively, analytically, logically and critically
- Understand the components that make up digital systems, and how they communicate with one another and with other systems
- Understand the impacts of digital technology to the individual and to wider society

How is the course structured?

Unit	Assessment		Content overview
1	**40%** of total GCSE	**Computer systems (01)** 80 marks 1 hour and 30 minutes Written paper (no calculators)	**Computer systems** Systems Architecture, Memory, Storage, Wired and wireless networks, Network topologies, protocols and layers, System security, System software, Ethical, legal, cultural and environmental concerns
2	**40%** of total GCSE	**Computational thinking, algorithms and programming (02)** 80 marks 1 hour and 30 minutes Written paper (no calculators)	**Computational thinking, algorithms and programming** Algorithms, Programming techniques, Producing robust programs, Computational logic, Translators and facilities of languages, Data representation
3	**20%** of total GCSE	**Programming project (03/04)** 40 marks Totalling 20 hours Non-Exam Assessment (NEA)	**Programming project** Programming techniques, Analysis, Design, Development, Testing and evaluation and conclusions

Computer Science Is…

Ai ◆ Algorithms ◆ Biocomputing ◆ Chip Design ◆ Communications ◆ Cloud Computing ◆ Cognitive Science ◆ Forensics ◆ Cybercrime ◆ Database Engineering ◆ E-Commerce ◆ Encryption ◆ Evolutionary Computing ◆ Genetic Algorithms ◆ Graphics ◆ Game Design ◆ ◆ Hardware Design ◆ Informatics Information Systems ◆ Language Design ◆ Logic ◆ Natural Language Processing ◆ Networking ◆ Neural Networks ◆ Operating Systems Optimisation ◆ Real-time Processing ◆ Vision Processing ◆ Visualisation ◆ Web Engineering

…among other things

```
while answer!="yes"
      answer=input("Are you choosing Computer Science?")
endwhile
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