

# COMPUTER SCIENCE AS/A LEVEL



AQA 7516/7

Fullbrook6

This evening we  
are going to  
tell you about:

- Course structure
- Assessment
- Extra resources
- Potential degree and apprenticeship routes from this A-Level
- Subjects that work well with this subject
- Potential career opportunities



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# Course Structure

Paper	Weighting	Topics
Paper 1	40% of course	Fundamentals of programming Fundamentals of data structures Systematic approach to problem solving Theory of computation
Paper 2	40% of course	Fundamentals of data representation, computer systems Fundamentals of computer organisation and architecture Consequences and uses of computing Fundamentals of communication and networking
NEA	20% of course	Solving or investigating a problem (programming)

A level course structure - 7517

# Assessment

End of year 12 exams	Duration	Comments
Paper 1	1hr 30 mins	Includes online programming exam
Paper 2	1hr 30 mins	
Does not count towards final A level. It is used as a benchmark for continuation into year 13. A grade <b>D (or higher)</b> is needed to allow pupil to continue onto the A2 course.		
Year 13:		
Paper 1 (7517/1)	2 hrs 30 mins	Includes online programming exam
Paper 2 (7517/2)	2 hrs 30 mins	
NEA - Project (7517/C)	6 months	Non-examined assessment – Pupils choose their own topic – programming task

# What Does an A level Computer Science lesson look like?

- Prior self study – pupils read current topic from their text book
- Starter activity: Review homework or computational thinking task (logic problem) , past paper question, random short research task from a course topic
- Teacher shows powerpoint presentation / video / news paper article, or we have a class discussion
- Pupils complete tasks / do research
  - If programming – pupils write / test program code – which will be differentiated based on pupil ability
  - If theory topic – often use the Internet / use online software / use software on school PC / use books / complete questions
- Pupil presentations – (usually advance warning) – share resources

Student expectation:  
For every 1 hr of lesson time, the pupils are expected to do the same amount of time in self study – even if homework is NOT set



# 100 Minute Lesson Benefits

- More time to get into depth and explore topics.
- More one to one challenging.
- More feedback given.
- More likely to retain the information.
- More time to challenge students understanding.
- Build better relationships.
- Delve deeper into the learning.

# Extra resources

- <https://isaacomputerscience.org/>
- <https://craigndave.org/> (instructional videos)
- <http://www.aqa.org.uk> (Past Papers, Specification)

Text Book: AQA A Level Computer Science, Bob Reeves



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# Subjects that work well with this subject

Other A Levels that work well with Computer Science:

- Maths / Further Maths
- Physics`
- Biology
- Business Studies

Course entry requirements:

Computing GCSE & Maths (Higher) GCSE - Grade 6 or better



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# Potential degree and apprenticeship routes from this A-Level

- Higher Technical Qualifications (E.G. HND in Cyber Security and networking)
- Apprenticeships (E.G. KPMG –Software Engineering Degree Apprenticeship)
- Computer Science Degree courses
- Supported Internships



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# Potential career opportunities

## Why choose Computer Science GCE?

Every industry uses computers so naturally computer scientists can work in any. Problems in science, engineering, health care, education, financial services, manufacturing and so many other areas can be solved by computers

Software Engineer (Various levels), Project manager, IT Manager, Business Continuity, IT Support, Systems Analyst, Technical Architect, Cyber Security Manager, Security Architect, Data Integration, Data Modeller, Data Engineer, Web Developer, Electronics Firmware Engineer, Graphics Designer, IT Analyst, Help Desk Manager , Penetration tester, Games Software Developer, Help Desk Support ,

Web Designer, Forensic data analyst



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# What our students say:

Provides a  
pathway  
to future  
careers

It's nice that the  
teachers have  
actual industry  
experience to  
draw upon

There's  
only one  
score  
100%



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