

Computer Science

What will I learn?

This course gives students a real, in-depth understanding of how computer technology works. Students will no doubt be familiar with the use of computers and other related technology, however this course will give them an insight into what goes on 'behind the scenes', including computer programming, which many students find absorbing.

This course will develop critical thinking, analysis and problem-solving skills through the study of computer programming, giving students a fun and interesting way to develop these skills, which can be transferred to other subjects and even applied in day-to-day life. You would choose this course if you are interested in developing computer programs and writing code to create applications. You could also choose this course if you are simply interested in how a computer program functions 'behind the scenes'.

Who can do it?

The structure and content of the course requires students to have a good competence in written English and Mathematics plus an interest in computer science. Students will also be expected to have a high and continual level of attendance in lessons and a willingness to work hard throughout the course which will include completing homework on time and to the best of their ability. All students should attempt to offer input into both class and group work.

Further course content

Content of AQA Computer Science:

1. Fundamentals of programming
2. Fundamentals of data structures
3. Fundamentals of algorithms
4. Theory of computation
5. Fundamentals of data representation
6. Fundamentals of computer systems
7. Fundamentals of computer organisation and architecture
8. Consequences of uses of computing
9. Fundamentals of communication and networking
10. Fundamentals of databases
11. Big Data
12. Fundamentals of functional programming
13. Systematic approach to problem solving
14. Non-exam assessment – the computing practical project

Summary

Level: A Level

Duration: 2 years

Qualification:
AQA Advanced Subsidiary
GCE in Computer Science

Entry Requirements:
6 GCSEs graded 5 and
above including English
and Mathematics plus
GCSE Computing grade 5
or above

Assessment

The A Level is split into 3 parts, both exams and the NEA deadline are at the end of Year 13:

Paper 1 – 2 hours 30 minutes – 40%

This paper tests a student's ability to program, as well as their theoretical knowledge of computer science from subject content 1-4 above and the skills required from section 13 above.

Paper 2 – 2 hours 30 minutes – 40%

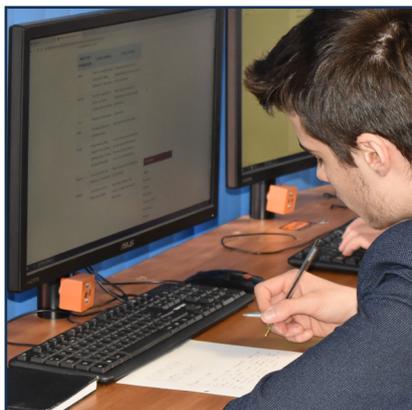
This paper tests a student's ability to answer questions from subject content 5-12 above.

Non-exam assessment – 20%

The non-exam assessment assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem. Students will be expected to follow a systematic approach to problem solving, as shown in section 13 above.

What can I do next?

This course provides excellent preparation for higher study and employment in the field of computer science. The increasing importance of information technology means there will be a growing demand for professionals who are qualified in this area.



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