A-Level Computer Science (AQA)

Staff delivering:

Mr Mattock, Mr Routledge

Topics/Units studied:

1. Fundamentals of programming
2. Fundamentals of data structures
3. Systematic approach to problem solving
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 (A Level only)
11. Big Data (A level only)
12. Fundamentals of functional programming (A Level only)
13. Systematic approach to problem solving (A Level only)
14. Non-examined assessment - the computing practical project (A Level only)

Key dates & deadlines:

Year 12 assessment

Paper 2 – Internal past paper exam
What's assessed This paper tests a student's ability to answer questions from subject content 5 – 9 above.
Assessed • Written exam: 1 hour 30 minutes
Questions A series of short-answer and extended-answer questions.

A Level Assessment

Paper 1 - May/June 2022	+	Paper 2 - May/June 2022	+	Non-exam assessment
What's assessed 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.		**What's assessed** This paper tests a student's ability to answer questions from subject content 5 – 12 above.		**What's assessed** 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.
Assessed • On-screen exam: 2 hours 30 minutes • 40% of A Level		**Assessed** • Written exam: 2 hours 30 minutes • 40% of A Level		**Assessed (March 2022)** • 75 marks • 20% of A-level
Questions Students answer a series of short questions and write/adapt/extend programs in an electronic answer document provided by AQA. AQA will issue preliminary material, a skeleton program and, where appropriate, test data, for use in the exam.		**Questions** Compulsory short-answer and extended-answer questions.		

Career Pathways:

- computer science
- computer aided design
- computer programming
- computer aided engineering
- software engineer
- banking
- robotics engineer
- construction and the built environment
- electrical engineering
- applied science
- operational research consultant
- engineering
- information technology

Success

The results in 2018 put Holderness Academy in the top 10% of results for A Level Computer Science in the country.

Alumni

Michael- achieved a grade A and is now studying Computer Science at the University of York.

Progression

An A Level in Computer Science allows access to a wide range of degrees both in a similar field as well as showing a breadth of skill and knowledge for other disciplines. Degrees and further study can lead to the following paths
Computer Science
Computer Science and Philosophy
Mathematics
Games Design
Computer Generated Audio & Visual Effects
User Centred Design
Computer Science is also available in many joint degrees and those with industry experience as part of the programme.