

Course Title: A Level Computer Science	LARS/QAN Code: QN 601/4911/5.
Level: Three	Awarding Organisation: OCR
Delivery: Classroom based	Start Date: September
Location: Headlands School	Url: http://www.headlandsschool.co.uk/
Cost: Covered by EFA funding	Duration: 2 years
Full-time or Part-time: Full-time	Attendance: Daytime

Who is the course for?

Our A Level in Computer Science is a practical, relevant and rigorous qualification. It is an intensely creative subject that combines programming, problem solving and invention.

Our Computer Science qualification values computational thinking, helping you to develop the skills to solve real-world challenges, design systems and understand the power and limits of human and machine intelligence.

Whilst developing practical programming skills you will engage in moral and ethical debate on topics such as artificial intelligence, virtual reality, and the internet.

For a transition pack to help you prepare for September email justin.williamson@headlandsschool.co.uk

Entry requirements:

Standard entry requirement for A Level programme, including a minimum of a grade 5 in GCSE Computer Science and Maths.

What you'll learn:

Year One

- Study contemporary systems architecture, databases and networks.
- Characteristics of contemporary processors.
- Software development methodologies.
- How data is represented, stored and exchanged between different systems.
- Explore programming techniques.

Year Two

- Understand key standard algorithms such as insertion sort and binary search
- Develop computational thinking skills, write code and learn about web technologies
- Coding, using advanced programming techniques.
- Merge sort, quick sort, A* and Dijkstra's algorithm will be explored

The coursework project involves using your skills to develop a solution to a problem of your own choice. Most students produce a game or simulation.

How you will learn:

You will be delivered the course in a methodical and well thought out manner that allows you to best sequence the information. Lessons will be a mix of theory and practical coding challenges, depending on the topic.

There are planned visits to university Computer Science departments during the course. Trips are also planned to the National Museum of Computing at Bletchley Park and the Science Museum in London.

How you'll be assessed:**Computer systems (01)**

140 marks

2 hours and 30 minutes

Written paper (no calculators allowed)

40% of total A level

Algorithms and programming (02)

140 marks

2 hours and 30 minutes

Written paper (no calculators allowed)

40% of total A level

Programming project

70 marks

Non-exam assessment

20% of total A level

Where next:

Computer Science is a useful A Level for many degree courses including Biology, Chemistry, Economics, Engineering, Geology, Mathematics, Materials Science, Medicine, Physics, Psychology, and Sociology.

Future career paths include computer science, mathematics, engineering, electrical engineering, computer forensics, computer games design, data science and apprenticeships

Computer Scientists are in demand and find work in many industry sectors.