

COMPUTER SCIENCE

WHERE CAN IT TAKE YOU?

Software Development

Software development is one of the main focuses of Computer Science and can lead to many different career opportunities. A career may involve designing, developing and maintaining different systems and applications across a wide variety of sectors. It could range from web-based eCommerce solutions to programming space-craft, the possibilities are endless.

Career Paths - Web developer, App developer, Software developer, UI/UX developer.

Games Development

Working in games development, you will help create games for a variety of different devices and consoles. This could be with triple A companies or smaller independent developers. A career could involve Artificial Intelligence, physics engines, character development or porting games to another platform.

Career Paths - Games Developer, Games Tester, Games Designer.

Networking & Communications

Networks are core to modern day communications. A career in networking may involve designing, developing and maintaining core infrastructure to ensure the integrity and performance of large networks within organisations or between organisations.

Career Paths - Network Engineer, Mobile Communications, Research and Development.

Data Science & Artificial Intelligence

Data Science is increasingly important and in high demand across all areas such as finance, consulting, manufacturing, pharmaceuticals and government. A career in Data Science may involve working with large data sets to find patterns and make predictions.

Career Paths - Data Scientist, Machine Learning Engineer, Business Intelligence Developer, Bioinformatics Software Engineer.

Databases

Databases sit at heart of the modern world. A career in databases could involve designing, developing and managing large scale databases for organisations. These crucial roles ensure an organisation's data is up-to-date, secure and provides relevant insight to aid in decision making.

Career Paths - Database administrator, database analyst, Data Architect, data warehouse specialist.

Cyber Security

A career in Cyber Security could involve preventing, detecting and managing cyber threats against an organisation. This can include protection of computers, data, networks and software.

Career Paths - Penetration Tester, Cyber Security Analyst, Forensic Computer Analyst.

FURTHER CAREER INFORMATION

These are just a small selection of the careers you could go on to pursue should you study A Level Computer Science.

Many of these careers require a university degree and therefore we would recommend looking into the specific requirements for each university course by heading to their respective websites.

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WHAT TO EXPECT

What does the course involve?

A Level Computer Science is a technical subject which has a large practical element.

The course examines the techniques used to design and write programs and makes students aware of the main principles of systems analysis.

The emphasis is on computational thinking; students learn to become effective designers and implementers of computing solutions through algorithms and learn to program in many languages including Java, C#, PHP and SQL.

Units include:

- Computer systems
- algorithms and programming
- programming project

You can expect to develop:

- the capacity to think creatively, innovatively, analytically, logically and critically, applying knowledge, computational thinking skills and understanding in a range of contexts to solve problems

o an understanding of the organisation of computer systems including software, hardware, data, communication and people
o skills in project and time management

o an awareness of the consequences of using computers and emerging technologies and an appreciation of their potential impact on society

o a computer application.

Can I take additional qualifications?

If you choose to study Computer Science, you will usually take it alongside two other A levels.

How will I be assessed?

80% examination/20% coursework

What are the costs?

There are no charges to study this course. However there may be some costs for trips.

What is the duration?

This is a two year course.

Entry Requirements

Grade 5 in Mathematics, grade 6 in Computer Science if studied at GCSE.