

Study Programme

Computer Science

(A Level)



Bishop Laney
Sixth Form

QUALIFICATION

GCE A Level in Computer Science

WHY SHOULD I CHOOSE THIS STUDY PROGRAMME?

The A Level in Computer Science is excellent preparation for the study of this increasing valuable subject at degree level, or working in the thriving local and national computer science and technology industry. The course provides a range of skills covering coding, computational thinking and algorithmic techniques, as well as providing an in-depth knowledge of fundamental and contemporary aspects of computer science.

WHAT WILL I STUDY?

Component 01: Computer systems

Students are introduced to the internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues. The resulting knowledge and understanding will underpin their work in component 03.

- The characteristics of contemporary processors, input, output and storage devices
- Types of software and the different methodologies used to develop software
- Data exchange between different systems
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues.
- problems
- Algorithms and how they can be used to describe and solve problems.

Component 02: Algorithms and programming

This builds on component 01 to include computational thinking and problem-solving.

- What is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.)
- Problem solving and programming – how computers and programs can be used to solve

Component 03: Programming project

Students are expected to apply the principles of computational thinking to a practical coding programming project. They will analyse, design, develop, test, evaluate and document a program written in a suitable programming language. The project is designed to be independently chosen by the student and provides them with the flexibility to investigate projects within the diverse field of computer science. We support a wide and diverse range of languages.

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WHAT COULD THIS QUALIFICATION LEAD TO?

The course provides excellent preparation for higher level study, degree or degree apprenticeship programmes, as well as direct entry into work, in either a local, national or international role.

The skills which this course provides compliment others on offer; be that study in other areas of science, mathematics or a focus on business's use of the technology. Critical analysis, scoping and prototyping are just some of the transferable skills which employers and higher level provider value.

WHAT WILL BE EXPECTED OF ME?

- A strong work ethic
- Regular attendance to taught sessions
- Completion of out of lesson learning which will include pre-reading and reading around the subject
- Meeting deadlines
- The ability and willingness to work with other students
- Attendance to intervention sessions, where necessary

WHO WILL BE INVOLVED?

- YOU!
- The teachers
- Visiting lecturers
- Hosts at university and industry visits
- Staff at your work placements included as each year of the course.

ENTRY REQUIREMENTS

At least 5 GCSE Grades 9 – 4 or equivalent to include English & Maths. Also required is Computer Science at Grade 6 or above, if currently studied.

FURTHER INFORMATION

This is a two-year course, which includes a work experience placement in each year of the course. Detailed support is provided in helping you to select and arrange a work experience placement which supports this and other aspects of your programme of study. For more information, contact Mr A Steels or Mrs T Adegoke at Bishop Laney Sixth Form.