



## A LEVEL Computer Science (CS) - OCR

### WHAT DO I NEED TO KNOW OR BE ABLE TO DO BEFORE TAKING THIS COURSE?

You will need a grade 6 or above in GCSE Computer Science, and a grade 5 or above in Mathematics and English Language.

Computer Science A Level is a challenging and rewarding course designed for students who wish to gain an understanding of how technology is constructed and designed. The skills required for computing underpin other courses such as Mathematics and Science. The course is designed to give students a secure grounding in the subject and develop critical thinking skills which assist in higher levels of scientific study.

### WHAT WILL I LEARN ON THIS ADVANCED GCE COURSE?

The qualification has a broad appeal and develops students' programming and logical thinking skills. Throughout the course students are pushed to develop their understanding of how everyday devices and software actually work. The transferrable skills gained will serve students who wish to study a variety of courses at higher education which require critical thinking and algorithmic skills.

**A Level CS** - The course comprises three modules which are compulsory and assessed at the end of the two year course.

#### **Unit 1** – H446/01: Computer Systems (External Assessment) 40%

This theory-based unit ensures that students have an understanding of computing covering theoretical topics such as the Fetch-Execute cycle, CPU architecture, Regular Expressions, Boolean Algebra and Logic Gates. The material covered gives a broad overview of computer science as a whole ensuring that students understand how different aspects of the subject relate to each other.

#### **Unit 2** - H446/02: Algorithms and Programming (External Assessment) 40%

This unit requires students to have an in-depth knowledge of computer programming and algorithm design. Students are expected to be able to construct, deconstruct and implement standard algorithms such as searching and sorting, along with designing their own. Students will be assessed in Python3, JavaScript and Pseudo Code in an exam at the end of the course.

#### **Unit 3** - H446/03 or H446/04: Programming Project (External Assessment) 20%

The programming project allows students to apply the programming skills they have gained in a personal project of their choosing. Students design, implement and test their own program following the System Development Life Cycle. This project gives students an insight into the processes undertaken in industry and serves as a talking point at interview for students wishing to pursue Computer Science at a higher level of study.

**Contact:** [sghalichitabriz@ashlyns.herts.sch.uk](mailto:sghalichitabriz@ashlyns.herts.sch.uk)