

Head of Department: Mr K. Ali

The main aim is to develop the students understanding of current and emerging technologies and how they work and apply this knowledge and understanding in a range of contexts. The student will develop computer programmes to solve problems, develop the skills to work collaboratively, evaluate the effectiveness of computer programmes / solutions and investigate what impact the use of computer technology has in society. Computer Science prepares young people for a world that doesn't yet exist, involving technologies that have not yet been invented, and that present technical and ethical challenges of which we are not yet aware. We live in a digitised, computerised, programmable world, and to make sense of it, we need Computer Science. Computing has an immense impact on modern life.

There are many different labels for Computing but, ultimately, the discipline encompasses Computer Science, ICT and Digital Literacy. All of these are important skills for young people to be in our constantly evolving and ever technologically-developing world. The computing curriculum at Laureate Academy has been organised in a cumulative manner: from KS3 onwards we help students to develop a wide range of foundational skills which are honed and refined before they choose to specialise further from KS4.

KS3

In KS3 all work (with the exception of some assessment) is done digitally. We use a virtual learning environment (VLE) called Moodle where students submit work electronically every lesson. This gives our students the unique opportunity to view the lesson content from their homes and to have access to a digital archive of their work, as well as being able to work within the paperless environment towards which many big companies are now working.

Lessons comprise of a mixture of theory, practical, group work and individual projects. Topics covered include: People, Computers & Information; Presenting Information; Coding, Hardware & Networking; Cryptography, Processes & Algorithms.

KS4

The **GCSE** Computer Science course follows a route which focuses on computational thinking, problem solving and creating codes for a specified purpose. We follow the AQA specification, which helps students to develop skills in such areas as algorithms and programming, as well as to consider the broader picture, and the legal and ethical concerns surrounding society and its growing reliance upon technology.

The **BTEC** Computing course covers core ICT skills in much greater depth, building upon the students' KS3 work and preparing them for using ICT within the workplace. Students will look at how ICT is used within the wider world and then undertake a series of projects, culminating in creating their own website to showcase their skills.

Sixth Form

Computer science is at the forefront of developing modern technology. Understanding how analysis and programming techniques can enhance research and development supports an increasing number of academic subjects. Computer Science at Laureate Academy has proven to hold increasing popularity with students who wish to choose a subject to complement their other subject choices. At A-Level, we follow the OCR specification - this course integrates technical themes such as software, programming, and algorithms, alongside wider issues such as the legal, moral and cultural implications of technology. Students also have the opportunity to apply their skills in an extended programming project.