Computer Science

HIVE Sixth Form
Countesthorpe Academy

Inspiration
Perseverance
Excellence

Computer Science

Teaching staff make use of up to date Intel Nuc Computers specifically for Computing & ICT students. Software and resources supporting a range of Computing Disciplines from Games Programming (Pygame) to software packages including Photoshop, Macromedia and Office.

Why study this course?

Studying Computer Science will provide an opportunity to study a range of courses in the computing sector and overlapping into a vast range of industry sectors, ranging from Programming, Networks, Forensic Science, Data Handling, Websites, Graphics Design, CAD/CAM, Security and Communication.

Aims of the course

To produce programmers equipped with an understanding of:

- fundamental computational concepts underlying most programming languages
- a range of problem solving techniques using computers
- the role of programming within the overall software development process
- attitudes and working practices appropriate for a professional people going into industry

Course outline

Students undertake three units during the A Level Computer Science course, two theory units and a practical based unit.

Component 1:

- The characteristics of contemporary processors, input, output and storage devices.
- Software and software development.
- Exchanging data.
- Data types, data structures and algorithms.
- Legal, moral, cultural and ethical issues.

Component 2:

- Elements of computational thinking
- Programming and problem solving
- Pattern recognition, abstraction and decomposition
- Algorithm design and efficiency
- Standard algorithms.

Component 3: Individual project:

- Design and develop a solution to a problem of their own choosing.
- Students are open to create an app, software package or an executable program that will solve a real world problem.
- They will communicate with a real end user to ensure specific criteria is met.

How am I assessed?

Written examination (Component 1) (40%)

Written examination (Component 2) (40%)

Individual Project (Component 3) (20%)

Where does this course lead?

A wide range of professions within the Computing and IT sector including other sectors which have elements of Computing and IT. The course will provide opportunities for further study at university or apprenticeship level which will enable specialist pathways for future employment.

Learn more at **Countesthorpe.org.uk**

Be the best you can be