Computer Science

Course Details

Programming is a vital component in any science course these days and this course is designed to give you a solid grounding in how computer can be used to solve all kinds of problems.

During this course you will learn several programming languages which will help you solve all kinds of problems and then you will develop your own project that you design.

The course also offers a lot of technical knowledge about how computers work and is a good complement to engineering courses.

The most interesting component for this course is the open ended coursework elements where you will have the chance to develop a program of your own and even sell this program if it is good enough.

Topics for Study

- 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

- Elements of computational thinking

- Problem solving and programming

- Algorithms to solve problems and standard algorithms

Programming Code

During this course you will learn how to code in Python which will open the doors to many other programming languages and allow you to make a range of programs to suit whatever needs you have.

We will also study web site development which will allow you to create and develop all kinds of web programs.

We will finally study artificial intelligence languages so that you have an understanding about how robots might work and you are ready for the future of technology.

Combining all these skills will give you the talent needed to create all kinds of games, programs, apps, websites and devices.

Theory

During the theory components we will study hardware to discover how to make computers and learn how they work.

We will also study how networks work so that you can develop programs that are able to talk to each other.

Binary is also important so that you understand how programming code works which is why we look at how binary is used within a processor.

EPCHS6th

Assessment

The A level is assessed in the following way:

- ✓ Paper 1 - 40% - Programming
- ✓ Paper 2 - 40% - Theory
- ✓ Coursework – 20%

Background Requirements

Computer Science GCSE is **not** required to study this course although an interest in technology and a strong ability in Mathematics would be essential to achieving the top grades.

Prospects

85% of all university Science, Engineering and Mathematics courses now include some level of computer programming and this course will give you a great understanding into how this works.

If you are interested in studying Astronomy to Archeology or Physics to Psychology you will likely need to learn how to program and this course is designed to give you the basics of this.

DID YOU KNOW

50% of the 10 richest people in the World have a background in Computer Science?

*If you are also interested in Computer Science as a university course then it is also recommended that you study Mathematics A-Level as many top universities also require this component.

For More Information

Students interested in following the A level Computer Science course, should contact:

Computer Science Teacher
Mr G Boylan BA (Hons)

Syllabus
Computer Science

Exam Board
OCR

Website
Further details of this course can be found on the exam boards' website.

www.ocr.org

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