Computer Science
A Level

Course details

Advances in computer Science are transforming the way we work. From small businesses to global corporations, software development is at the heart of the commercial world. If you want to learn computer programming and the development of computer systems as well as their organisation, you will enjoy this subject.

The aim of this AS and A2 Level Computer Science specifications is to develop your understanding of existing and new 'cutting edge' technologies in the field of Computer Science.

This brand new course will teach you a lot about computers and the ways in which computers are organised in terms of software, data, hardware, communications and people.

You will develop the skills necessary to apply your understanding to the development of computer-based solutions. You will also consider systematic methods of solution implementation, testing and documentation.

What qualifications do I need to study on the course?

In addition to the minimum requirements for 6th form entry, you should also have a good pass in GCSE Computer Science and a grade B/6 or higher in Mathematics.

What will I study?

The course will focus on:
- Fundamentals of programming
- Fundamentals of data structures
- Fundamentals of algorithms
- Theory of computation
- Fundamentals of data representation
- Fundamentals of computer systems
- Fundamentals of computer organisation and architecture
- Consequences of uses of computing
- Fundamentals of communication and networking
- Fundamentals of databases
- Big Data
- Fundamentals of functional programming
- Systematic approach to problem solving
- Non-exam assessment - the computing practical project

Assessment

Unlike previous A levels, the assessment for the full A level takes place in the final year of the course. Students wishing to complete the AS year only, will study the same content but will undergo a different scheme of assessment.

AS level assessment:

AS Paper 1
- On screen examination
- 1 hour 45 minutes
- 50% of the total AS level marks

Students answer questions and write/ adapt programs in an Electronic Answer Document. Some questions are based on preliminary materials (vb.net program). The exam covers bullet points 1-4 .

AS Paper 2
- Written examination
- 1 hour 30 minutes
- 50% of the total AS level marks

This examination focuses on the main subject content (bullet points 5-9)

A level assessment:

A Paper 1
- On Screen examination
- 2 hour 30 minutes
- 40% of the total A level marks

Some questions are based on preliminary materials (vb.net program). The exam focuses on bullet points 1-4 .

A Paper 2
- Written examination
- 2 hour 30 minutes
- 40% of the total A level marks

This examination focuses on the main subject content (bullet points 5-13)

Non exam assessment

- Practical Coursework
- 20% of the total A level marks

What could I go on to do after the course?

This course has been designed for students who wish to go on to higher education courses or employment where knowledge of computer science would be beneficial. The emphasis is on computational and abstract thinking, general problem solving, algorithmic reasoning, scientific and engineering based thinking and the course lays a good foundation for understanding ever increasing future challenges that face computer scientists.

The course fully equips you with valuable skills that apply to other areas of study and most areas of work such as meeting deadlines, project management and problem solving in a computing context. The work builds on the skills learnt at GCSE level. You will extend your programming skills in VB.Net and learn about Object Oriented Programming. This exciting course aims to broaden your understanding of all areas connected with computer science.

The study of computer science is not only about the organisation of computer systems, but also about the capacity to develop creative, innovative and analytical thinking and a logical approach to problem solving. You will learn practical skills in computer programming, and how to apply these skills to provide computer solutions.

The course is designed to provide you with an understanding of the principles and concepts underpinning computers and communications and to develop skills in analysis, logic and computational thinking. As part of the course you will be expected to complete practical work using problem solving and programming skills using MS Visual Basic .Net.

Being a Wigston College student, you will be entitled to all Microsoft development software and all Microsoft Operating systems. You will also be entitled to an Office 365 account, giving you access to a full version of MS-Office and 1Tb of cloud storage.

Wigston College

Station Road, Wigston, Leicester, LE18 2DS

Phone: 0116 2881611
Fax: 0116 2881432
E-mail: admin@wigstoncollege.org

16+ Opportunities

2018

Computer Science

A Level

LEARN·ASPIRE·ACHIEVE

Wigston College