

WHY COMPUTER SCIENCE



Solve complex & challenging problems



Gain valuable skills to build innovative solutions



Intellectually challenging & stimulating

At Red House Academy we recognise the importance of ICT and Computer Science in the modern world, Employers and further education providers increasingly insist on qualifications in ICT or Computer Science. We have introduced a brand new curriculum to facilitate the introduction of Computer Science and have designed a curriculum which gives students two distinct pathways, one for ICT and one for Computer Science.

Key Stage 3

In Year 7, 8 and 9 pupils currently study ICT and Computing following a scheme of work which matches the National Curriculum Programme of Study in Computing. This incorporates Computer Science, Information Technology and Digital Literacy. An end of unit test taken is to assess knowledge and forms part of the assessment process which is undertaken throughout the year. Within lessons pupils complete work booklets to enhance their literacy skills to aid work completed on the computers.

Please see an overview of our new KS3 programme of study below:



Term	Year 7	Year 8	Year 9
Autumn 1	Transition Unit DTP Students study a wide range of aspect involved in effective desktop publishing.	Password and Online Security Looking at how to create effective passwords and a wide range of online security issues and threats including viruses, hacking and other threats.	Spreadsheet Modelling In depth look at creating and manipulating spreadsheets and working effectively with formulas and functions.
Autumn 2	Scratch Students begin to develop logical thinking and programming skills using an object orientated programming environment.	Integrated Project-Kodu Students have the opportunity to design create and programme their own computer games using leading Microsoft technology.	Integrated Project based around Python This project is designed to introduce students to text based programming and provide a foundation for computer science study at KS4.

Spring 1	<p>E-Safety</p> <p>Students are introduced and encouraged to raise their awareness and skills in a range of areas designed to keep them safe online. As well as promoting online safety the unit looks at how students can be good digital citizens and use the internet responsibly.</p>		
Spring 2	SunWize Travel	ICT in the Modern World	Relational Databases
Summer 1	<p>ICT Skills for Business Integrated Project</p> <p>This unit brings together a wide range of traditional ICT skills including word processing, databases, spreadsheet modelling and presentation skills.</p>	<p>Computer Science 1</p> <p>This unit covers data representation including binary, hexadecimal and ACSII code.</p>	<p>Computer Science 1</p> <p>Students will continue to study data representational and programming techniques at a higher level.</p>
Summer 2	Mini Python Project	<p>Computer Science 2</p> <p>Students will learn about systems hardware and software.</p>	<p>R002 Cambridge Nationals</p> <p>All students will begin Unit R002 ICT Skills for business.</p>

Businesses today require an ever-increasing number of technologically-aware individuals. This is even more so in the gaming, mobile and web related industries and the AQA GCSE Computer Science specification has been designed with this in mind.

Students studying this subject will:

- Create applications to run on mobile devices which operate in a web enabled environment.
- Learn how to create simple computer games.
- Gain an understanding of the fundamental concepts around creating software applications.
- Gain an understanding of the fundamentals of computer systems such as: The internal workings of a computer (the Central Processing Unit, memory and hardware) and networking concepts (network design, network hardware and client/server architecture).
- Study the concepts of algorithms, data representation and the software development lifecycle.

GCSE Computer Science is assessed in the following way:

Component 1 – Exam which makes up 80% of the qualification

Component 2 – Programming Project- which makes up 20% of the qualification

The course will provide excellent progression to 'A' level Computer Science, vocational courses and on to degree level courses in the areas of computing, engineering and science and provide a foundation understanding of the concepts required for careers such as:

☒ Computer Programmer ☒ Software Engineer ☒ Computer Games Developer ☒ Network Engineer/Manager ☒ Web/Web Applications Developer ☒ Database System Developer

The AQA GCSE Computer Science course is supported by Microsoft and is part of the Microsoft Premier Qualifications Partner scheme.

We currently follow the AQA 8520 specification which can be found here

<http://www.aqa.org.uk/subjects/computer-science-and-it/gcse/computer-science-8520>

in Addition, we currently offer Cambridge Nationals as an ICT Vocational Pathway.

Scheme of Assessment

The scheme of assessment is un-tiered, covering all of the ability range assessed as Pass, Merit and Distinction. If pupils achieve a Distinction in all units, a Distinction is awarded.

All KS4 students will also benefit from the ECDL qualification which is a level 2 qualification and has the same weight as a GCSE.



The ECDL is an internationally recognised standard of competence certifying that the holder has the knowledge and skills needed to use the most common computer applications efficiently and productively. There are now 137 countries around the world running the accreditation in 32 different languages. Outside Europe it is known as the International Computer Driving Licence (ICDL).

The ECDL was launched in Britain in May 1998 by the British Computer Society and the rate at which it has spread has been phenomenal. There are now about 5 million students worldwide, over a million of whom are from the UK.

ECDL & ICDL are meeting the needs of governments, leading corporates, institutions and individuals worldwide, by providing a globally recognised and trusted IT skills competency standard.

For further information regarding the ICT department or curriculum please contact Mr. Koomson Head of ICT at red House Academy.

For further information concerning E-safety or if you are concerned about anything please contact the school or follow this link
<https://www.thinkuknow.co.uk/>