

COMPUTING – YR7

Units taught in Year 7

AUTUMN	SPRING	SUMMER
<p>E-safety & DTP</p> <p>Students learn about online risks and other related e-safety issues. They then develop their desktop publishing skills by writing an e-safety guide for younger children</p>	<p>Digital Graphics</p> <p>Students research existing web graphics online before then developing their graphic skills using industry standard software to produce a suite of web graphics for a given scenario of their choice</p>	<p>Digital presentations</p> <p>Students develop their skills in creating digital presentations using industry standard presentation software</p>
<p>Computer Science #1</p> <p>Students gain an understanding of how computers work, what hardware and software is, input and output devices as well as basic computer architecture. Students explore the way computers carry out instructions through the fetch-decode-execute cycle.</p>	<p>Computer Science #2</p> <p>Students develop basic coding skills using a graphical based programming language and then translate this coding into a text based programming language. The unit is aimed at developing their skills by combining mathematics and computer science to create a piece of artwork using algorithms and iteration</p>	<p>Computer Science #3</p> <p>Students build on their existing coding knowledge with new skills in a graphical programming language to design, build and develop their own game.</p>

Main skills developed in Year 7:

- Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- Understand several key algorithms that reflect computational thinking (for example, ones for sorting and searching); use logical reasoning to compare the utility of alternative algorithms for the same problem
- Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures (for example, lists, tables or arrays); design and develop modular programs that use procedures or functions
- Understand simple Boolean logic (for example, AND, OR and NOT) and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers (for example, binary addition, and conversion between binary and decimal)



ICT – YR7 - CONT

Main skills developed – cont:

- Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

How parents can help to support their son's/daughter's learning:

Encourage practicing the skills they learn at school with particular attention to learning to program in different languages by downloading and installing the relevant software which is freely available at no charge. Students will be given the links to the sites where they can find the software for free.

Students will be set homework activities for longer projects which require work to be produced and used in the following lessons.

We provide the following extra-curricular clubs:

- Homework drop in sessions during lunchtimes or after school



COMPUTING – YR8

Units taught in Year 8

AUTUMN	SPRING	SUMMER
<p>E-safety & Web Design</p> <p>Students learn about cyberbullying and other related e-safety issues as well as key legislation relating to these issues. They then apply their knowledge and build their web creation skills by designing a website on cyberbullying, aimed at a younger audience</p>	<p>Digital Image Editing</p> <p>Students are given an industry related scenario to produce a professional piece of artwork using industry standard graphics software. Students develop their graphic skills in the software before being asked to produce the finished graphic for the given scenario</p>	<p>Spreadsheets</p> <p><i>Students gain an understanding and build their skills in industry standard spreadsheet software</i></p>
<p>Computer Science #1</p> <p>Student gain an understanding of how games have evolved over the years and then learn and develop their graphical programming skills over the weeks to create their very own retro computer game.</p>	<p>Computer Science #2</p> <p>Students develop their programming skills further by studying and learning to code in a text based programming language.</p>	<p>Digital presentations</p> <p><i>Students develop their skills in creating digital presentations using industry standard presentation software</i></p>

Main skills developed in Year 8:

- o Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- o Understand several key algorithms that reflect computational thinking (for example, ones for sorting and searching); use logical reasoning to compare the utility of alternative algorithms for the same problem
- o Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures (for example, lists, tables or arrays); design and develop modular programs that use procedures or functions
- o Understand simple Boolean logic (for example, AND, OR and NOT) and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple
- o operations on binary numbers (for example, binary addition, and conversion between binary and decimal)



ICT – YR8 - CONT

Main skills developed – cont:

- o Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- o Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

How parents can help to support their son's/daughter's learning:

Encourage practicing the skills they learn at school with particular attention to learning to program in different languages by downloading and installing the relevant software which is freely available at no charge. Students will be given the links to the sites where they can find the software for free.

Students will be set homework activities for longer projects which require work to be produced and used in the following lessons.

We provide the following extra-curricular clubs:

- Homework drop in sessions during lunchtimes or after school



COMPUTING – YR9

Units taught in Year 9

AUTUMN	SPRING	SUMMER
Introduction to the course and organisational skills	Using email in a business context	Creating business documents using word processing software
Investigating safe working practices when using ICT in a business environment	Understanding email etiquette	Creating business documents using desktop publishing software
Designing a multimedia product for a specific purpose and audience	Creating electronic/paper-based guides for a specified audience and purpose	Data handling using database software
Data handling using spreadsheets		

Main skills developed in Year 9:

During this year the students will study a series of units through which the candidates will be able to show that they understand:

- o good working practices, including the organisation of files using appropriate file and directory/folder names and the regular backing up of files
- o features of email software
- o methods of searching for information on the internet
- o methods of integrating different types of files into a document or presentation
- o how to identify the appropriate software to use for different tasks
- o methods of storing, retrieving and analysing data

- o understand a range of measures to protect health and physical safety in an ICT environment
- o be able to create and organise files, directories/ folders and their desktop and to understand appropriate
- o backup strategies to protect files from loss
- o understand measures to protect files from unauthorised access and modification and understand the reasons why all these measures need to be in place
- o select and use tools and facilities in electronic communication software to download files/information and to send and receive email messages and attachments
- o develop the ability to select and use tools and facilities in presentation software to produce a business presentation for a specific purpose



ICT – YR9 - CONT

Main skills developed – cont:

- o develop the ability to select and use tools and facilities in word processing or DTP
- o software to produce a variety of business documents
- o develop the ability to select and use tools and facilities in spreadsheet software to create and use a simple business spreadsheet
- o develop the ability to select and use tools and facilities in database software to enter, sort and search for information for business purposes using a realistic business
- o database provided by the centre.

How parents can help to support their son's/daughter's learning:

Encourage practicing the skills they learn at school with particular attention to learning to program in different languages by downloading and installing the relevant software which is freely available at no charge. Students will be given the links to the sites where they can find the software for free.

Students will be set homework activities for longer projects which require work to be produced and used in the following lessons.

We provide the following extra-curricular clubs:

- Homework drop in sessions during lunchtimes or after school

