

**Congleton High School ICT/Computer Science Curriculum Intent Statement**

**“Everybody should learn how to program a computer because it teaches you how to think” Steve Jobs**

At Congleton High School our intent is that all students develop the digital skills, knowledge and confidence to enter the post-school sphere as digital citizens who have the skills to adapt to an ever-changing digital world. We are committed to developing a flexible skill set that will enable students to explore software with confidence to rationally choose the best digital tools to support their learning across the curriculum, beyond into further education and be prepared for the demands of the modern working environment.

**Y7 ICT/Computer Science**

<b><u>Introduction</u></b>	<b><u>Unit 1</u></b> <b><u>E-safety</u></b>	<b><u>Unit 2</u></b> <b><u>Graphics</u></b>	<b><u>Unit 3</u></b> <b><u>Cyber Security</u></b>	<b><u>Unit 4</u></b> <b><u>Database</u></b>	<b><u>Unit 5</u></b> <b><u>Computer Games Design</u></b>	<b><u>Additional Awards</u></b>
Students will learn how to access the school systems from within and outside school. The systems they will use are the school	E-safety is an important aspect for students to learn as they start secondary school as they are exposed to more online content through their studies and greater opportunity to socialise in and out	Using images to communicate is an essential skill. In this unit students will learn how digital images are stored as pixels. They will learn the difference between bitmap and vector graphics, and what affects the	This unit follows on from the e-safety unit. It looks at the threats individuals and organisations face online, looking at the measures that can be taken to protect themselves from those threats. Phishing, social	Data drives modern society and it is important that students understand the different organisations that store our data. Students will then learn to extract information from a	More and more the world economy relies on people who can code. In this unit students will create a computer game using the block based programming	<ul style="list-style-type: none"> <li>• IDEA Bronze Award</li> </ul>

<p>network, Office 365, Teams, Outlook for Email and Satchel:One for homework. Students will be asked to complete a research task and document their work using the Office365 online version of PowerPoint, this will then be submitted to an assignment on Teams.</p>	<p>of school as well as online. Students will learn how to use social media in an acceptable way by not sharing personal information, not sharing images of themselves and being courteous to all. They will work through activities highlighting the dangers they might face online and best practice for operating in the digital world. They will then create a presentation to provide guidelines to parents.</p>	<p>quality of images. Through developing a praise postcard they will learn to create shapes, fill shapes, add filters, customise filters, add text, format text including attaching text to paths, working with layers, importing images, removing back grounds and transforming images.</p>	<p>engineering, name generators and other threats are discussed as well as GDPR. Students will work through some IDEA award badges to assess understanding.</p>	<p>database by using simple and complex queries to solve crimes. The results of the queries will be presented in the form of a report.</p>	<p>language Scratch. Students will need to use iterations and create variables to complete the task as well as understanding angles. The creation of sprites provides a link to the graphics unit.</p>	
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	<p>Link to National Curriculum POS</p> <ul style="list-style-type: none"> <li>• Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns</li> <li>• Create, reuse, revise</li> </ul>	<p>Link to National Curriculum POS</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• create, reuse, revise and repurpose digital</li> </ul>	<p>Link to National Curriculum POS</p> <ul style="list-style-type: none"> <li>• Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns</li> <li>• Create, reuse, revise and</li> </ul>	<p>Link to National Curriculum POS</p> <ul style="list-style-type: none"> <li>• Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to</li> </ul>	<p>Link to National Curriculum POS</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>	
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	<p>and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability</p>	<p>artefacts for a given audience, with attention to trustworthiness, design and usability</p> <ul style="list-style-type: none"><li>• create, re-use, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li></ul>	<p>repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability</p>	<p>report concerns</p> <ul style="list-style-type: none"><li>• Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability</li></ul>	<p>ms for the same problem</p> <ul style="list-style-type: none"><li>• use 2 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</li></ul>	
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					and develop modular programs that use procedures or functions	
SMSC, British Values, Cultural Capital						
Caers	<a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a> <a href="https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp">https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp</a> <a href="https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1</a>					

**Y8 ICT/Computer Science**

<b><u>Unit 1</u></b>	<b><u>Unit 2</u></b>	<b><u>Unit 3</u></b>	<b><u>Unit 4</u></b>	<b><u>Unit 5</u></b>	<b><u>Additional Awards</u></b>
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<b><u>Sketchup – 3D Modelling</u></b>	<b><u>Wearables</u></b>	<b><u>Binary</u></b>	<b><u>Input and Output Devices</u></b>	<b><u>Computer Programming Task</u></b>	
<p>No longer do companies have to go to the expense of creating models to test designs. Students are taught the advantages and disadvantages of using 3D modelling software. Students are tasked with using Sketchup 3D to create the design of a house. They will use extrusion, scale, transform, move, fill, measurement and orbit tools to complete the task and then create a presentation to explain their designs.</p>	<p>Being able to understand how to programme physical is important in the modern world.</p>	<p>In this unit students are taught how data is stored on a computer as 1s and 0s. This links to the Y7 Graphics unit where students are taught how data is stored. Students learn how to convert denary to binary and binary to denary. They also learn how computers use binary to store text and use that information to decode and write messages.</p>		<p>The programming task leads on from the Y7 unit on computer games programming. Students are provided with skills in using variables, iterations and procedures to tackle a real world problem through a process of decomposition, writing an algorithm, prototyping, testing and improving a solution.</p>	<ul style="list-style-type: none"> <li>• IDEA Bronze Award</li> <li>• IDEA Silver Award</li> <li>• Wakelet Ambassador</li> </ul>

Link to National Curriculum POS	Link to National Curriculum POS	Link to National Curriculum POS	Link to National Curriculum POS	Link to National Curriculum POS	
<ul style="list-style-type: none"> <li>• design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</li> <li>• undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• create, reuse, revise and repurpose digital artefacts for a</li> </ul>	<ul style="list-style-type: none"> <li>• understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems</li> </ul> <p>create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p>	<ul style="list-style-type: none"> <li>• 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</li> <li>• use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use</li> </ul>	

the needs of known users	of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	<p>given audience, with attention to trustworthines s, design and usability</p> <ul style="list-style-type: none"> <li>• create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthines s, design and usability</li> </ul>		of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	
<b>SMSC,</b> <b>British Values,</b> <b>Cultural Capital</b>					
<b>Careers</b>					

**Y9 ICT/Computer Science**

<b><u>Unit 1</u></b>	<b><u>Unit 2</u></b>	<b><u>Unit 3</u></b>	<b><u>Additional Awards</u></b>
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<u>Graphics</u>	<u>Web design</u>	<u>Python Programming</u>	
<p>Following on from the graphics unit in Y7, students further develop their skills looking at filters, use of layers and image manipulation to create a product for a specific audience following a brief. The brief is based around work that would be done in the Y10 Creative iMedia course and so prepares students by providing them with skills that will be applicable in R082 Graphic unit.</p> <p>These skills could also be utilised in GCSE Media, GCSE Photography and GCSE Art.</p>	<p>Most businesses now have a presence on the Internet. Having an understanding how these sites are built is becoming an invaluable skill to have. In this unit students explore the HTML language for creating the structure for simple pages and how these can be linked together. CSS is utilised to show students how they can style the pages. Most advanced skills look at embedding Web 2.0 elements create interactivity such as forms, video and sound. Students are also encouraged to utilise the graphics skills they developed in the previous unit to ensure the site developed meets the needs of the audience.</p> <p>The skills developed on this unit link into R085 Website</p>	<p>In Y7/8 students have looked at decomposition of a programming problem, writing algorithms and coding solutions using the block based Scratch environment. In this unit students transfer some of the skills developed in those previous units into solving problems using the python text based language. Students will cover iterations, procedures, selection and variables.</p> <p>This unit draws from skills developed in Y7 and Y9 and links directly into GCSE Computer Science, BTEC IT Level 3 Unit 4 and 8 and GCE Computer Science.</p>	<ul style="list-style-type: none"> <li>• IDEA Bronze Award</li> <li>• IDEA Silver Award</li> <li>• Wakelet Ambassador</li> </ul>

	<p>development unit for the Creative iMedia course, GCSE Computer Science, GCE Computer Science and BTEC IT Level 3 Unit 6.</p>		
<p><b>Link to National Curriculum POS</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> <li>• create, re-use, revise and re-purpose digital artefacts for a given audience, with attention</li> </ul>	<p><b>Link to National Curriculum POS</b></p> <ul style="list-style-type: none"> <li>• create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> <li>• undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</li> <li>• use 2 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</li> </ul>	<p><b>Link to National Curriculum POS</b></p> <ul style="list-style-type: none"> <li>• design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</li> <li>• 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</li> <li>• use 2 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</li> </ul>	

to trustworthiness, design and usability	procedures or functions	modular programs that use procedures or functions	
<b>SMSC,</b> <b>British Values,</b> <b>Cultural Capital</b>			
<b>Careers</b>	<a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a> <a href="https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp">https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp</a> <a href="https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1</a>		

### Y10 Creative iMedia

<u><b>R081</b></u> <u><b>Pre-production Skills</b></u>	<u><b>R082</b></u> <u><b>Graphics</b></u>	<u><b>R085</b></u> <u><b>Website Development</b></u>
<p>This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process.</p> <p>Planning is an essential part of working in the</p>	<p>This unit builds on unit R081 and learners will be able to apply the skills, knowledge and understanding gained in that unit and vice versa.</p> <p>Digital graphics feature in many areas of our lives and play a very important part in today's world. The digital media sector relies heavily on these</p>	<p>This unit builds on units R081 and R082 and learners will be able to apply skills, knowledge and understanding gained in those units.</p> <p>Multipage websites are the basis of internet content and are therefore used extensively in the creative digital</p>

<p>creative and digital media sector. This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application.</p> <p>On completion of this unit, learners will understand the purpose and uses of a range of preproduction techniques. They will be able to plan pre-production of a creative digital media product to a client brief, and will understand how to review pre-production documents.</p> <p>Learners studying the optional units will be able to apply knowledge and understanding gained in this unit to help develop their skills further during the completion of those units.</p> <p><b><u>Links to GCSE Media Studies</u></b></p>	<p>visual stimulants within the products it produces, to communicate messages effectively.</p> <p>The aim of this unit is for learners to understand the basics of digital graphics editing for the creative and digital media sector. They will learn where and why digital graphics are used and what techniques are involved in their creation. This unit will develop learners’ understanding of the client brief, time frames, deadlines and preparation techniques as part of the planning and creation process.</p> <p>On completion of this unit, learners will understand the purpose and properties of digital graphics, and know where and how they are used. They will be able to plan the creation of digital graphics, create new digital graphics using a range of editing techniques and review a completed graphic against a specific brief.</p> <p><b><u>Links to GCSE Art, Media Studies and Graphics</u></b></p>	<p>media sector, whether for mobile phones or computers in all their forms.</p> <p>This unit will enable learners to understand the basics of creating multipage websites. It will enable learners to demonstrate their creativity by combining components to create a functional, intuitive and aesthetically pleasing website. It will allow them to interpret a client brief and to use planning and preparation techniques when developing a multipage website.</p> <p>On completion of this unit, learners will be able to explore and understand the different properties, purposes and features of multipage websites, plan and create a multipage website and review the final website against a specific brief.</p> <p><b><u>Links to GCSE Computer Science</u></b></p>
<p><b>SMSC,</b></p> <p><b>British Values,</b></p> <p><b>Cultural Capital</b></p>		

Careers	<a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a> <a href="https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp">https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp</a> <a href="https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1</a>	

### **Y11 Creative iMedia**

<b><u>R081</u></b> <b><u>Pre-production Skills</u></b>	<b><u>R085</u></b> <b><u>Website Development</u></b>	<b><u>R087</u></b> <b><u>Interactive Multimedia Product</u></b>
<b><u>See above</u></b>	<b><u>See above</u></b>	<p>This unit builds on units R081 and R082 and learners will be able to apply the skills, knowledge and understanding gained in those units.</p> <p>Interactive multimedia products are used widely in everyday life and the creative and digital media sector. They are used in computer games, mobile phone applications, presentations and many other areas.</p> <p>This unit will enable learners to</p>

		<p>understand the basics of interactive multimedia products for the creative and digital media sector. They will learn where and why interactive multimedia is used and what features are needed for a given purpose. It will enable them to interpret a client brief, and to use time frames, deadlines and preparation techniques as part of the planning and creation process when creating an interactive multimedia product.</p> <p>On completion of this unit, learners will understand the purpose and properties of interactive multimedia products, be able to plan and create an interactive multimedia product to a client's requirements and review it, identifying areas for improvement.</p> <p>Links to GCSE Media Studies</p>
<p><b>SMSC,</b> <b>British Values,</b> <b>Cultural Capital</b></p>		
<p><b>Careers</b></p>		

<p><a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a></p> <p><a href="https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp">https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp</a></p> <p><a href="https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhi692p/jobs-that-use-computing-and-ict/1</a></p>		

### **Y10 GCSE Computer Science**

<p><b><u>J277/01</u></b></p> <p><b><u>Computer Systems</u></b></p>	<p><b><u>J277/02</u></b></p> <p><b><u>Computational Thinking, Algorithms and Programming</u></b></p>	<p><b><u>Programming Project(s)</u></b></p>
<p>This unit of work will introduce students to the fundamental principles and concepts in Computer Science. Learners will study a diverse range of topics, from system hardware and software through to computer networking and threats to systems. Additionally, learners will consider the social, legal and environmental impact of computer systems in the world, considering relevant legislation and issues such as privacy and reliance on computer systems.</p>	<p><b><u>Completed during Year 11</u></b></p>	<p>This unit of work builds on the programming techniques &amp; algorithmic thinking/problem solving skills developed in J277/02. Learners will have the opportunity to apply their skills to a range of programming tasks, predominantly towards the end of Year 10 and throughout Year 11.</p>

<p>The GCSE Computer Science course provides learners with an introduction to a range of future career options and this unit of work provides the most diverse coverage of potential career routes, including (but not limited to) hardware engineer, network design and management and legal areas.</p> <p>This unit of work will enable learners to understand the role of different hardware components in individual systems, from the individual elements in a single processor through to the range of hardware components used in complex computer networks.</p> <p><b>Links to GCSE Engineering</b></p>		<p>The practical application of programming theory &amp; techniques is vital in order for students to be able to develop their abilities as software developers &amp; problem solvers. Programming techniques will be specifically assessed during the J277/02 examination from 2021.</p> <p>During this unit, learners will also have the opportunity to apply their programming skills &amp; problem solving to a larger programming brief. During this project, students will be given a brief to decompose and plan, develop, test &amp; evaluate their solution. Students will follow the software development life cycle during this project.</p>
<p><b>SMSC,</b></p> <p><b>British Values,</b></p> <p><b>Cultural Capital</b></p>		
<p><b>Careers</b></p> <p><a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a></p> <p><a href="https://www.investopedia.com/articles/investing/101315/10-">https://www.investopedia.com/articles/investing/101315/10-</a></p>		



<a href="http://best-tech-jobs.asp">best-tech-jobs.asp</a>  <a href="https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1</a>		

**Y11 GCSE Computer Science**

<p><b><u>J277/01</u></b></p> <p><b><u>Computer Systems</u></b></p>	<p><b><u>J277/02</u></b></p> <p><b><u>Computational Thinking, Algorithms and Programming</u></b></p>	<p><b><u>Programming Project(s)</u></b></p>
<p><b><u>See above</u></b></p>	<p>This unit of work will introduce students to a range of programming techniques, problem solving skills and methods of algorithmic thinking.</p> <p>This unit of work will provide learners with the opportunity to develop their skills programming with Python, as well as learning the fundamental concepts required to be an effective software developer. Learners will be introduced to problem solving skills such as decomposition and abstraction, having</p>	<p><b><u>See above</u></b></p>

considerable opportunity to combine these skills with their programming techniques when developing solutions to problems. Learners will also be introduced to a range of standard algorithms, such as searching and sorting algorithms which they may implement into their programming solutions. Additionally, learners will be introduced to ways in which data is represented in computer systems, by looking at numbers, characters, sound and images and the technical concepts behind their representation in computer systems.

Understanding the fundamental concepts behind solution design is vital in developing effective programming solutions and this unit of work will help students to move from basic program writers to considered and effective software developers.

On completion of this unit of work, learners will be able to confidently develop solutions to complex programming briefs, effectively planning, developing and testing their solutions.

	Links to GCSE Maths.	
<b>SMSC,</b> <b>British Values,</b> <b>Cultural Capital</b>		
<b>Careers</b> <a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a> <a href="https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp">https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp</a> <a href="https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1">https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1</a>		

**Y12 BTEC IT Level 3**

<b><u>Unit 2</u></b> <b><u>Creating Systems To Manage Information</u></b>	<b><u>Unit 3</u></b> <b><u>Social Media in Business</u></b>	<b><u>Unit 6</u></b> <b><u>Website Development</u></b>	<b><u>Unit 8</u></b> <b><u>Computer Games Development</u></b>
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<p>In order to produce information to support many business processes as well as our social lives, relational databases are widely used to manage and process data. From the smallest in-house systems to stock control systems for large online retailers, databases are repositories of information that are a significant part of organisational operating requirements.</p> <p>You will examine the structure of data and its origins, and how an efficient data design follows through to an effective and useful database. You will examine a given scenario and develop an effective design solution to produce a database system. You will then test your solution to ensure that it works correctly. Finally, you will evaluate each stage of the development process and the effectiveness of your database solution. To complete the assessment tasks for within this unit, you will need to draw on your learning from across your programme.</p> <p>The skills you gain in this unit</p>	<p>Social media websites are a popular way for people to communicate and share information with friends and family. People spend a lot of time on social media websites and they give businesses opportunities to interact with people, for example to promote their business, to encourage people to visit their e-commerce site and buy, to provide customer service. You may be familiar with social media for personal use and in this unit you will discover how it can be used in a business context.</p> <p>You will explore different social media websites, the ways in which they can be used and the potential pitfalls when using them for business purposes. You will develop a plan to use social media strategies for business purposes to achieve specific aims and objectives. You will then implement the plan, developing and posting content and interacting with others. Finally, you will collect data on the business use of social media and review the effectiveness of your efforts.</p>	<p>Increasingly, organisations rely on websites to serve customers and, in some cases, to generate revenue. With millions of web pages being created daily, the need for websites to be engaging, innovative and desirable is important. As a website developer, you must use sophisticated techniques to capture user interest and to ensure that customers are served. The scripting involved in the development of websites has become crucial: website developers need to understand and acquire the necessary skills to find solutions to a variety of scenarios and problems.</p> <p>In this unit, you will review existing websites – commenting on their overall design and effectiveness. You will use scripting languages such as Hypertext Markup Language (HTML), Cascading Style Sheets (CSS) and JavaScript® and a simple text editor, or rapid application development tools. Finally, you will reflect on the website design and functionality using a testing and review process.</p> <p>Many software developers, database</p>	<p>The computer games industry has been growing year on year and has become a multi-billion pound industry. With the prevalence of computing devices, games consoles and mobile devices, this growth shows no sign of slowing. Many computer games are vast productions involving a range of people such as programmers, graphical artists, animators, level designers, actors and directors. As a games developer, you will analyse the needs of a client and understand the potential and limitations of different gaming solutions.</p> <p>In this unit, you will investigate the technologies used in the computer gaming industry and the implications they have for users, developers and organisations. You will analyse how user needs and preferences impact on game design and how target technologies affect the design and development of a computer game. Finally, you will design, create and review a</p>
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<p>support progression to IT-related higher education courses and to employment in a role that requires computing-related expertise.</p>	<p>Understanding how to use social media for business purposes is useful for employment in information technology and in a variety of business sectors. Also, social media skills are closely linked with web and mobile applications development. This unit gives you a starting point for progression to roles such as social media specialist, content developer and web developer.</p>	<p>experts and systems managers need web-client development skills as an integral part of their overall portfolio of expertise. This unit will prepare you for employment as a website developer or as a website development apprenticeship. The unit will benefit you if you want to go on to higher education to develop your studies.</p>	<p>computer game to meet requirements and reflect on the skills and understanding applied during the design and development process.</p> <p>You will apply analytical skills that would be used by any software developer to investigate the available technologies and current trends in order to design and develop appropriate software solutions. The skills you gain through this unit will benefit you as you progress to employment in the computer gaming industry, for example in computer games developer and software developer roles.</p>
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**Y13 BTEC IT Level 3**

<b><u>Unit 1</u></b>	<b><u>Unit 6</u></b>	<b><u>Unit 4</u></b>
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<b><u>Information Technology Systems</u></b>	<b><u>Website Development</u></b>	<b><u>Programming</u></b>
<p>Information technology (IT) systems have a significant role in the world around us and play a part in almost everything we do. Having a sound understanding of how to effectively select and use appropriate IT systems will benefit you personally and professionally.</p> <p>You will explore the relationships between the hardware and software that form an IT system, and the way that systems work individually and together, as well as the relationship between the user and the system. You will examine issues related to the use of IT systems and the impact that they have on organisations and individuals. To complete the assessment task for within this unit, you will need to draw on your learning from across your programme.</p> <p>This unit will give you a fundamental and synoptic understanding of all areas of IT, supporting your progression to an IT-related higher education course.</p>	<p><b><u>See above</u></b></p>	<p>Organisations and individuals increasingly depend on the functions and services offered by computing devices such as smartphones, tablets, laptops and personal desktop computers. You make use of computing programs when using an operating system or application programs such as word processing and spreadsheets. Understanding the concepts of high-quality software application design and development is key to ensuring that products are effective. As a programmer, you will need to understand the characteristics of different programming languages in order to select and apply appropriate methodologies to meet a client's needs.</p> <p>Many organisations and businesses rely on computer programs to help deliver products and services. Organisations and businesses (often known as 'clients') work closely with programmers to help design and build computer programs that fulfil their requirements. To complete the</p>

		<p>assessment task within this unit, you will need to draw on your learning from across your programme of study and apply programming skills to provide a solution for a new IT-related problem.</p> <p>You will learn about computational thinking skills and the principles of designing and developing computer programs. You will apply computational thinking skills to design, develop, test, refine and review computer programs for a given range of purposes. By developing your analytical, problem-solving and programming skills, this unit will help you to progress to higher education or to employment as a software developer.</p>
<p>Careers</p> <p><a href="https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it">https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it</a></p> <p><a href="https://www.investopedia.com/articles/investing/101315/10-">https://www.investopedia.com/articles/investing/101315/10-</a></p>		



[best-tech-jobs.asp](#)

<https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1>

## Y12 A-Level Computer Science

<b><u>Component 01</u></b> <b><u>Computer Systems</u></b>	<b><u>Component 02</u></b> <b><u>Algorithms and Programming</u></b>	<b><u>Component 03</u></b> <b><u>Programming Project</u></b>
<p>This unit of work, whilst building on J277/01 from the GCSE Computer Science, allows students to develop an understanding of computer systems without prior study of the subject.</p> <p>This unit of work provides students with a comprehensive understanding of five core elements of Computer Science: Hardware; Software &amp; Software Development; Exchanging Data; Data Types, Structures and Algorithms; and Legal, Moral, Cultural and Ethical Issues. Each topic area - whilst mirroring J277/01 and J277/02 from the GCSE course – builds learner understanding to a highly technical and detailed level.</p> <p>On completion of this unit, learners will have a thorough understanding of different processor architectures, different programming paradigms, encryption methods, network structures, data structures</p>	<b><u>Completed during Year 13</u></b>	<p>This unit of work spans across Year 12 and Year 13 and provides learners with the opportunity to apply their computational thinking skills to a practical project. Having spent time identifying the needs of their client and a range of possible solutions, learners will spend a considerable proportion of their time developing and testing their solution.</p> <p>Learners are provided with the freedom to decide their own problem and to design, develop, test and evaluate their own individual solution to this problem. During this unit of work, learners will be introduced to project management concepts and will take their project through the full software development cycle.</p> <p>On completion of this unit of work, learners will have produced a significant programming project which demonstrates advanced</p>

<p>and types and legal issues.</p> <p>Links to A-Level Maths and BTEC IT.</p>		<p>programming techniques and concepts by producing a complex solution to their identified problem.</p> <p>Links to BTEC Engineering, A-Level Maths and BTEC IT.</p>
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**Y13 A-Level Computer Science**

<b><u>Component 01</u></b> <b><u>Computer Systems</u></b>	<b><u>Component 02</u></b> <b><u>Algorithms and Programming</u></b>	<b><u>Component 03</u></b> <b><u>Programming Project</u></b>
<b><u>See above</u></b>	<p>This unit of work will introduce learners to computational thinking techniques and concepts, building considerably on J277/02 from GCSE Computer Science.</p> <p>During this unit of work, learners will develop a thorough understanding of three key elements of computational thinking: Elements of Computational Thinking; Programming Techniques; and Algorithms. Learners will consider how to think in a computational manner and how these techniques can be applied to problem identification and the development of solutions. Building on this, learners will develop their understanding of a range of programming paradigms, moving on from those covered at GCSE.</p> <p>Having completed this unit of work, learners will be confident software developers and will have a thorough understanding of a range of programming concepts. Working alongside this unit of work, learners will complete the development phase of Component 03. It is vital</p>	<b><u>See above</u></b>

	<p>that students apply the concepts studied in this unit of work to their Programming Project in order to develop sufficiently complex solutions.</p> <p>Links to A-Level Maths and BTEC IT.</p>	
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### Careers

<https://targetjobs.co.uk/careers-advice/information-technology/ten-typical-jobs-graduates-can-do-it>

<https://www.investopedia.com/articles/investing/101315/10-best-tech-jobs.asp>

<https://www.bbc.co.uk/bitesize/tags/zhj692p/jobs-that-use-computing-and-ict/1>

### **Impact:**

To ensure that all students achieve mastery in specified knowledge, students are formatively assessed regularly at KS3 Microsoft Form quizzes and assessment of unit work. Assessment data is used to judge the success of the curriculum and progress towards mastery, with teaching time allocated to the re-teaching of specific knowledge. There will be regular feedback given both verbal and written. At KS4 feedback is provided on practice coursework but in line with OCR guidelines no feedback is given for Creative iMedia coursework.