

**Curriculum Overview**

Year 7	<b>E-Safety and Web Design</b> <ul style="list-style-type: none"> <li>How can you stay safe online?</li> <li>What can you do if you are worried about something online?</li> <li>How do you report online concerns?</li> <li>How do you make a website?</li> <li>How do you revise a website for a different audience?</li> </ul>		<b>Components of Computer Systems and their functions</b> <ul style="list-style-type: none"> <li>What is a computer?</li> <li>What is the difference between hardware and software?</li> <li>What does the CPU do?</li> <li>What is an operating system?</li> <li>Why do we need system applications?</li> <li>What are the key components you need to build a computer system?</li> </ul>		<b>Networks and Protocols</b> <ul style="list-style-type: none"> <li>What is a Computer Network and how do they work?</li> <li>What hardware is required to set up a network in a school?</li> <li>How is Data Transmitted through a network?</li> <li>What is an internet service provider?</li> <li>What are the Protocols associated with networking computer systems, and what do they do?</li> <li>What are the legal issues surrounding data management?</li> </ul>
Links	<b>KS4</b> BTEC Digital Information Technologies – Component 1 Developing user interfaces  BTEC Digital Information Technologies – Component 3 – The Wider Implications of IT	<b>KS5</b> OCR Cambridge Technical in IT – Unit 6 Application Design	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices	<b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices  <b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT
Skills	<ul style="list-style-type: none"> <li>Application Design</li> <li>Online Bullying</li> <li>Social Networking</li> <li>Digital Footprint</li> <li>Responsible internet usage</li> <li>Google Sites</li> <li>Effective Digital Working Practices</li> <li>Using advanced research tools</li> </ul>	<ul style="list-style-type: none"> <li>Effective Digital Working Practices</li> <li>Using advanced research tools</li> <li>Draw Conclusions</li> <li>Range of Hardware</li> <li>Range of Software</li> <li>Range of Operating systems</li> <li>Purpose of Utility Software</li> </ul>	<ul style="list-style-type: none"> <li>Fundamentals of networks including advantages / disadvantages.</li> <li>LAN &amp; WAN Topologies</li> <li>Wired Vs Wireless Introduction to networks This unit introduces several key concepts that are then covered in Hardware (Hub / Switch / Router / NIC / WAP)</li> <li>Internet / WWW Cloud</li> <li>Transmission Media (Copper / Fibre / Wireless)</li> <li>Network access models (Peer to peer / client server)</li> <li>IP addresses</li> </ul>		
NC	<ul style="list-style-type: none"> <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>Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> <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> </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>	<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>		
Year 8	<b>Data Representation</b> <ul style="list-style-type: none"> <li>How is simple Boolean logic [for example, AND, OR and NOT] used in circuits?</li> <li>How are numbers represented in binary?</li> <li>How do you add in binary?</li> <li>How do you convert decimal to binary?</li> <li>How can data of various types (including text, sounds and pictures) be represented and manipulated digitally in the form of binary digits?</li> </ul>		<b>Algorithms &amp; Programming</b> <ul style="list-style-type: none"> <li>How are algorithms used to create programmes?</li> <li>How can we develop an Algorithm to include decisions?</li> <li>How can we use graphical programmes to solve problems?</li> <li>How is Boolean logic [for example, AND, OR and NOT] used in programming?</li> <li>How to design and write procedures</li> </ul>		<b>Textual Programming</b> <ul style="list-style-type: none"> <li>How are algorithms used to create programmes?</li> <li>How can we use textual programmes to solve problems?</li> <li>How can we programme computers to make decisions?</li> <li>How can we improve the efficiency of programmes?</li> </ul>
Links	<b>KS3</b> Algorithms & Programming - How is Boolean logic [ AND, OR and NOT] used in programming?	<b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices	<b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT  OCR Cambridge Technical in IT – Unit 6 Application Design	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices  <b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT  OCR Cambridge Technical in IT – Unit 6 Application Design
Skills	<ul style="list-style-type: none"> <li>Effective Digital Working Practices</li> <li>Numerical Calculations</li> <li>Google Sheets/Excel</li> <li>Binary conversion</li> <li>Binary calculations</li> <li>Binary to text</li> </ul>	<ul style="list-style-type: none"> <li>Designing Flowcharts</li> <li>Using Pseudocode</li> <li>Using effective Digital Working Practices</li> <li>Computational Thinking</li> <li>Scratch Software</li> <li>Draw Conclusions</li> </ul>	<ul style="list-style-type: none"> <li>Designing Flowcharts</li> <li>Using Pseudocode</li> <li>Using effective Digital Working Practices</li> <li>Computational Thinking</li> <li>Understanding Variables/ Data types/Input / output/ Arithmetic operators/ Selection/Iteration/Random/Debugging</li> </ul>		
NC	<ul style="list-style-type: none"> <li>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]</li> <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> </ul>	<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 modular programs that use procedures or functions</li> </ul>	<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 modular programs that use procedures or functions</li> </ul>		
Year 9	<b>Control with Flowol</b> <ul style="list-style-type: none"> <li>How are Flowcharts used to solve real world problems?</li> <li>How are sequences used in developing control systems?</li> <li>How are sensors used in developing control systems?</li> <li>How can the use of subroutines make programs more efficient?</li> <li>How are actuators used in control systems?</li> <li>How are variables used in control systems?</li> </ul>	<b>Multi-Media</b>  To create a Super Trailer which selects, uses and combines multiple applications which could be used on social media to promote a film.  Demonstration of imaginative application of production skills and techniques when reworking aspects of an existing media product, leading to creative outcomes.	<b>Spreadsheet Modelling</b> <ul style="list-style-type: none"> <li>Understand the basic functions in a spreadsheet to help calculate totals</li> <li>Ask 'What if' questions</li> <li>Use Count functions</li> <li>Use Pivot Tables and Vlookup functions</li> <li>Use conditional formatting and Validation methods</li> <li>Apply Macros and create charts</li> </ul>		<b>Cyber-Security and Legislation</b> <ul style="list-style-type: none"> <li>What are System Attacks?</li> <li>What is Social Engineering?</li> <li>How can User Restrictions be applied?</li> <li>How can Ethical Hacking help businesses protect logical content?</li> <li>What is Data Protection legislation?</li> </ul>

<b>L i n k s</b>	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information	<b>KS4</b> BTEC Digital Information Technologies – Component 1 Developing user interfaces	<b>KS5</b> OCR Cambridge Technical in IT – Unit 6 Application Design	<b>KS4</b> BTEC Digital Information Technologies – Component 2 – Collecting, Presenting and Interpreting Data	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information	<b>KS4</b> BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information				
<b>S k i l l s</b>	<ul style="list-style-type: none"> <li>Computational Thinking</li> <li>Developing Flowcharts</li> <li>Sequencing instructions</li> <li>Draw Conclusions</li> <li>Developing control solutions</li> <li>Using effective Digital Working Practices</li> </ul>	<ul style="list-style-type: none"> <li>Develop a Narrative Structure</li> <li>Create a Storyboard to plan a trailer</li> <li>Use movie making software to import media to a timeline</li> <li>Crop movie clips to an appropriate length</li> <li>Apply transitions</li> <li>Add Audio and adjust volume at key moments</li> <li>Create and import a title card using graphics software</li> </ul>	<ul style="list-style-type: none"> <li>Understand the basic functions in a spreadsheet to help calculate totals</li> <li>Ask ‘What if’ questions</li> <li>Use Count functions</li> <li>Use Pivot Tables and Vlookup functions</li> <li>Use conditional formatting and Validation methods</li> <li>Apply Macros and create charts</li> </ul>	<ul style="list-style-type: none"> <li>Using advanced research tools</li> <li>Using effective Digital Working Practices</li> <li>Draw Conclusions</li> </ul>								
<b>N C</b>	<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 modular programs that use procedures or functions</li> </ul>	<ul style="list-style-type: none"> <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>Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> </ul>	<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 the needs of known users</li> </ul>	<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> </ul>								
<b>Y e a r 1 0</b>	BTEC Digital Information Technologies – Component 2 – Collecting, Presenting and Interpreting Data Assignment 1: Data Collection and Analysis	BTEC Digital Information Technologies – Component 2 – Collecting, Presenting and Interpreting Data Assignment 2: Collecting, Presenting and Interpreting Data	BTEC Digital Information Technologies – Component 2 – Collecting, Presenting and Interpreting Data Assignment 3: Conclusion and Recommendations Based on the Analysis of the Data	BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices LAB: Cybersecurity								
<b>L i n k s</b>	<b>KS3</b> Spreadsheet Modelling	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information	<b>KS3</b> Spreadsheet Modelling Algorithms & Programming Textual Programming	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information	<b>KS3</b> Spreadsheet Modelling	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information	<b>KS3</b> Components of Computer Systems and their functions Networks and Protocols	<b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT	<b>KS3</b> E-Safety Cybersecurity	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information		
<b>S k i l l s</b>	Research Effective Digital Working Practices	Using spreadsheet Software including a range of formulas and functions Effective Digital Working Practices	Using spreadsheet Software including creating charts Analysing Data Draw Conclusions Effective Digital Working Practices Evaluating	Research Google Docs Networks Effective Digital Working Practices	Research Google Docs Online Safety Effective Digital Working Practices							
<b>Y e a r 1 1</b>	BTEC Digital Information Technologies – Component 1 Developing user interfaces Assignment 4: The User Interface	BTEC Digital Information Technologies – Component 1 Developing user interfaces Assignment 5: The Project Plan	BTEC Digital Information Technologies – Component 1 Developing user interfaces Assignment 6: Stadium Information System User Interface	BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices LAC: The Wider Implications	BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices LAD: Forms of Notation							
<b>L i n k s</b>	<b>KS3</b> Web Design	<b>KS5</b> OCR Cambridge Technical in IT – Unit 6 Application Design	<b>KS3</b> Components of Computer Systems and their functions	<b>KS5</b> OCR Cambridge Technical in IT – Unit 13 Social Media & Marketing	<b>KS3</b> Web Design	<b>KS5</b> OCR Cambridge Technical in IT – Unit 6 Application Design	<b>KS3</b> Components of Computer Systems and their functions	<b>KS5</b> OCR Cambridge Technical in IT – Unit 13 Social Media & Marketing	<b>KS3</b> E-Safety Networks and Protocols Cybersecurity	<b>KS5</b> OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT	<b>KS3</b> Control using Flowol	<b>KS5</b> OCR Cambridge Technical in IT – Unit 2 Global Information
<b>S k i l l s</b>	Basics of effective Interfaces Design - House Style, User Interaction, Accessibility tools, Consistent Design Approaches Effective Digital Working Practices Google Docs	Gantt Charts Storyboards Mood boards PowerPoint/presentation skills Effective Digital Working Practices	Questioning Drawing Conclusions Evaluating	Online Safety Effective Digital Working Practices	Effective Digital Working Practices Flow Charts Data Flow Diagrams Information flow diagrams Computational Thinking							

Year 12	<p>Assignment 1</p> <p>Describe the key stages in application development</p> <p>Compare and contrast different application development models</p>	<p>Assignment 2</p> <p>Describe different methods of mobile device connectivity</p> <p>Carry out research on the impact of mobile technologies on businesses</p> <p>Compare and contrast different operating systems used in mobile technology</p> <p>Examine the ethical implications of the use of mobile technologies</p> <p>Evaluate the suitability of mobile technologies for different situations</p>	<p>Assignment 3</p> <p>Gather client requirements for an application solution</p> <p>Conduct a feasibility study of different solutions for the client requirements</p> <p>Investigate the mobile technological requirements for an identified business need</p> <p>Plan a mobile technological solution for an identified business need</p> <p>Prepare a technology business plan to support the implementation of the mobile technological solution for the business.</p>	<p>Assignment 4</p> <p>Illustrate the requirements, functioning, and designs of an application solution, using diagrams</p> <p>Justify design choices identifying the advantages and disadvantages of each</p>	<p>OCR Cambridge Technical in IT – Unit 1 The Fundamentals of IT</p> <p>Understand computer hardware</p> <p>Understand Computer Software</p> <p>Understand business IT systems</p> <p>Understand employability and communication skills used in an IT environment</p> <p>Understand ethical and operational issues and threats to computer systems</p>					
Links	<p><u>KS3</u></p> <p>E-Safety and Web Design</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 1 Developing user interfaces</p>	<p><u>KS3</u></p> <p>Networks and Protocols</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 1 Developing user interfaces</p>	<p><u>KS3</u></p> <p>Components of Computer Systems and their functions</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 1 Developing user interfaces</p>	<p><u>KS3</u></p> <p>Control with Flowchart</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 1 Developing user interfaces</p>	<p><u>KS3</u></p> <p>Yr 7 Hardware / Software/ Networks</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices</p>
Skills	<p>How applications are designed</p> <p>Understanding and investigating mobile technologies</p> <p>Understand computer hardware</p> <p>Understanding and investigating mobile technologies</p> <p>Investigating solutions for the use of mobile technologies</p> <p>Understand computer hardware</p> <p>Understand computer software</p>	<p>Understanding and investigating mobile technologies</p> <p>Investigating solutions for the use of mobile technologies</p> <p>Understand computer hardware</p> <p>Understand computer software</p>	<p>Investigating solutions for the use of mobile technologies</p> <p>Generating designs for application solutions</p> <p>Preparing Business Plans</p> <p>Preparing Feasibility Studies</p> <p>Understand computer software</p>	<p>Generating designs for application solutions</p> <p>Presenting solutions to meet client and user requirements</p> <p>Flowcharts</p> <p>Data Flow Diagrams</p>	<p>Understand computer hardware</p> <p>Understand Computer Software</p> <p>Understand business IT systems</p> <p>Understand employability and communication skills used in an IT environment</p> <p>Understand ethical and operational issues and threats to computer systems</p>					
Year 13	<p>Assignment 5</p> <p>Present a proposed design solution to the identified client</p> <p>Create a prototype based on the design solution</p> <p>Gather client and/or user feedback on the prototype</p> <p>Negotiate adaptations with the identified client to refine the design solution</p> <p>Implement improvements based on the analysed client and/or user feedback</p> <p>Promote the mobile technological solution to relevant stakeholders</p> <p>Improve the proposed mobile technological solution based on stakeholder feedback</p> <p>Predict the effectiveness of the mobile technological solution for the identified business need</p>	<p>Assignment 6</p> <p>Outline the tools available for digital marketing</p> <p>Explain the stages of the digital marketing life cycle</p> <p>Describe how social media may be used to gather data</p> <p>Describe the legal and ethical restrictions on the use of social media as part of digital marketing campaigns</p> <p>Explain how data is used as part of social media digital marketing campaigns</p> <p>Assess the impact of digital marketing on an identified product</p>	<p>Assignment 7</p> <p>Outline social media channels to be used in a digital marketing campaign</p> <p>Describe the target audience for the identified social media channels</p> <p>Propose a digital marketing campaign across different social media channels to meet identified business objectives</p> <p>Plan the social media content of the digital marketing campaign to meet identified business objectives</p> <p>Recommend adaptations to current business processes to support social media activities</p> <p>Justify the use of identified social media channels in the digital marketing campaign</p>	<p>OCR Cambridge Technical in IT – Unit 2 Global Information</p> <p>Understand where information is held globally and how it is transmitted</p> <p>Understand the styles, classification and the management of global information</p> <p>Understand the use of global information and the benefits to individuals and organisations</p> <p>Understand the legal and regulatory framework governing the storage and use of global information</p> <p>Understand the process flow of information</p> <p>Understand the principles of information security</p>						
Links	<p><u>KS3</u></p> <p>Networks and Protocols</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 1 Developing user interfaces</p>	<p><u>KS3</u></p> <p>Networks and Protocols</p> <p>Cyber-Security and Legislation</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices</p>	<p><u>KS3</u></p> <p>Networks and Protocols</p> <p>Cyber-Security and Legislation</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices</p>	<p><u>KS3</u></p> <p>Cyber-Security and Legislation</p> <p>Spreadsheet Modelling</p> <p>Control with Flowchart</p>	<p><u>KS4</u></p> <p>BTEC Digital Information Technologies – Component 3 – Effective Digital Working Practices</p>		
Skills	<p>Presenting solutions to meet client and user requirements</p> <p>Negotiate adaptations</p> <p>Improve solutions based on stakeholder feedback</p> <p>Predict the effectiveness of solutions</p>	<p>Outline tools</p> <p>Explain the stages of the digital marketing life cycle</p> <p>Describe how social media may be used to gather data</p> <p>Describe the legal and ethical restrictions on the use of social media as part of digital marketing campaigns</p> <p>Explain how data is used as part of social media digital marketing campaigns</p> <p>Assess the impact of digital marketing on an identified product</p>	<p>Propose a digital marketing campaign</p> <p>Plan social media content</p> <p>Recommend adaptations</p>	<p>Understand where information is held globally and how it is transmitted</p> <p>Understand the styles, classification and the management of global information</p> <p>Understand the use of global information and the benefits to individuals and organisations</p> <p>Understand the legal and regulatory framework governing the storage and use of global information</p> <p>Understand the process flow of information</p> <p>Understand the principles of information security</p>						