

# ICT / COMPUTER SCIENCE

<b>Curriculum Intent</b>	To promote computational thinking and digital creativity. Students are actively and engaged and creators in the emerging digital economy.
<b>KS3 Curriculum</b>	The curriculum explores society, historical contexts and parliamentary systems. The curriculum is progressive with more complex content being covered in Y9 and in preparation for KS4
<b>KS4 Curriculum</b>	The curriculum explores social responsibility, wider world democracy and personal political preferences. KS3 provides the understanding of events and systems to inform decisions and preferences at KS4

## KS3 ICT

Year Group		HT1	HT2	HT3	HT4	HT5	HT6
<b>7</b>	Content	<b>Year 7 Introduction (4 lessons)</b> -Password/Office 365 -Teams/Assignments -One Drive -Email -E safety- Social Media/Grooming/Cyber Bullying	<b>United Learning Survey</b>  <b>Unit 7.2 Unplugged Computing: Codes and messages (4 lessons)</b> -Caesar Cipher -Binary -Binary calculations -Binary Mosaic	<b>Powerpoint Skills</b> -master slide -transitions/custom animation  <b>Photopea</b> -Basic tools (copy, paste, text, clone tool)  <b>Safer Internet Day</b> 2 lessons		<b>Unit 7.3 Programming (7 lessons)</b> -Changing sprite speed -Chasing the mouse -Backgrounds costumes -IF touching -Co-ordinates -Variables EXTRA- Escape Room-Drift in Space.	<b>Unit 7.4 Graphics Photopea</b> -Colour splash -Remove an object -Super powers -Text Overlaid
<b>8</b>	Content	<b>Unit 8.1 Sorting and Searching (4 lessons)</b> -TEAMS(Assignments) -Email, One Note -Bubble sort -Merge sort EXTRA: Insertion sort, Logic gates, Logic gates multiple gates.	<b>United Learning Survey</b>  <b>Unit 8.2 Graphics (4 lessons)</b> Remove a background/magic wand tool/Lesson polygonal tool/layers/text/ Software: Photopea	<b>Powerpoint Skills</b> -master slide -transitions/custom animation  <b>Photopea</b> -Basic tools (copy, paste, text, clone tool)  <b>Safer Internet Day</b> 2 lessons		<b>Unit 8.4 Using and Applying Technology: The Internet and the World Wide Web.</b> -Credibility of sources(trusting the internet) -The intent and the world wide web -Packet switching -How the internet works(networks) -The world wide web Overall project creating a interactive media product	<b>Unit 8.5 Graphics Photopea</b> -Recap on the basics -Colour splash -Remove an object -Super powers -Text Overlaid
<b>9</b>	Content	<b>Unit 9.1 Programming- Flowcharts and Pseudocode (4 lessons)</b> -Teams(Assignments) -Flowol-Zebra Crossing -Flowol-Traffic Lights -Flowol-Sensors -Intro to referenced language -Escape Room	<b>United Learning Survey</b>  <b>Unit 9.2 Media-Graphics (4 lessons)</b> -Genre-Films -Typography -Edit graphics  Software: Photopea	<b>Powerpoint Skills</b> -master slide -transitions/custom animation  <b>Photopea</b> -Basic tools (copy, paste, text, clone tool)  <b>Safer Internet Day</b> 2 lessons		<b>Unit 9.5 Using and Applying Technology-The Internet, www (6 weeks)</b> -Credibility of sources(trusting the internet) -The intent and the world wide web -Packet switching -How the internet works(networks) -The world wide web	<b>Unit 9.6 Designing a Games Concept Including Photopea skills</b> -Target Audience -Mood Board -Character Design -Creating a games proposal

## Computer Science

Year Group	HT1	HT2	HT3	HT4	HT5	HT6	
10	<b>Computer Science</b>						
	Content	<p>Python- Chapter 1</p> <p>2.4.1 Logic gates, truth tables</p> <p>1.2.4 Binary conversion, hex, binary addition, characters, binary shift, binary images,</p>	<p>2.1.1 algorithms, decomposition, abstraction, pattern recognition, problem solving,</p>	<p>Python-Chapter 1</p> <p>1.2.5 Compression</p> <p>1.1.1 Purpose of the CPU, fetch decode execute cycle, CPU components and their function, Von Neumann Architecture</p> <p>1.1.2 Performance of the CPU, 1.1.3 embedded systems</p> <p>1.2.1 primary storage-memory,</p>	<p>Python-Chapter 1</p> <p>1.3.1 LAN Hardware, WAN, virtual networks, factors that affect the performance of networks,</p> <p>1.2.2 secondary storage</p> <p>2.1.2 purpose of an algorithm, trace table, complete algorithms, 1.2.4 binary sound</p>	<p>Python-Chapter 2/3</p> <p>1.2.3 Units</p> <p>1.3.1 peer-to peer, client server,</p> <p>2.2.1 Programming fundamentals, 2.2.2 integer, real Boolean, character, casting</p> <p>2.2.3 arithmetic operations, string manipulation,</p>	<p>Python- Chapter 4/5</p> <p>1.3.1 network topologies, the internet, wireless networks</p> <p>1.3.2 protocols, layers, IP MAC addressing, social engineering,</p>
<b>Current Year 11's</b>							
		<p>1.4.1 methods to detect and prevent, malware, network policy,</p> <p>1.4.1 penetration firewall</p> <p>1.5.1 Operating System</p> <p>1.5.2 Utility software</p> <p>1.6.1 legislation</p> <p>Programming project- homework</p>	<p>1.6.1 environmental, impact of technology, open-proprietary software, cultural and ethical issues, privacy issues</p> <p>Programming project- homework</p>	<p>Recap:</p> <p>1.2.5 Compression</p> <p>1.1.1 Purpose of the CPU, fetch decode execute cycle, CPU components and their function, Von Neumann Architecture</p> <p>1.1.2 Performance of the CPU, 1.1.3 embedded systems</p> <p>1.2.1 primary storage-memory, 1.2.2 secondary storage, 1.3.1 LAN Hardware, WAN, virtual networks, factors that affect the performance of networks, Programming project- homework</p>	<p>Recap:</p> <p>2.3.2 Testing</p> <p>2.3.1 defensive design,</p> <p>2.5.1 Programming languages, translators,</p> <p>2.5.2 IDE</p> <p>2.1.3 merge sort, bubble sort, merge sort, standard searching algorithms.</p> <p>Programming project- homework</p>	<p>2.3.2 Utility programs</p> <p>1.6.1 legislation, environmental, impact of technology, open-proprietary software.</p> <p>1.6.1 social media, cultural and ethical issues</p>	
11	<b>Computer Science</b>						
	Content	<p>2.4.1 Boolean Computer Logic, Truth Tables</p> <p>1.2.4 Data Storage-binary, hex, characters, binary shift, binary images</p> <p>2.1.1 Representing Algorithms</p> <p>Python-lesson 1,2,3,4</p> <p>2.1.2 purpose of an algorithm, completing algorithms</p> <p>2.2.2 data types, real, Boolean, character, casting</p> <p>Mock exam- later than planned due to Year 11 self isolating.</p> <p>Homework- Revision of content- personalised targets.</p>	<p>2.2.3 Arithmetic operations, string manipulation.</p> <p>1.2.3 Units</p> <p>Python-lesson 5,6,7,8,9,10,11</p> <p>1.3.1 Performance of a network, networks, topologies,</p> <p>1.3.2 wireless networks, use of protocols,</p> <p>1.4.1 malware, cyber security threats, network policy</p> <p>1.4.2 identifying and preventing, penetration, firewalls,</p> <p>2.3.1 defensive design, 2.3.2 Utility programs</p> <p>1.6.1 legislation, environmental, impact of technology, open-proprietary software.</p> <p>Homework- Revision of content- personalised targets.</p>	<p>Python- lesson 12,13,14,15, 16, 17</p> <p>1.6.1 social media, cultural and ethical issues</p> <p>2.5.1 levels of programming language, translators</p> <p>2.5.2 IDE</p> <p>2.1.3 insertion sort, merge sort, bubble sport, standard searching algorithms</p> <p>Reading and writing to a CSV file, reading and writing to a text file</p> <p>Homework- Revision of content</p>	<p>6 a day</p> <p>Revision recap of every topic (Individualised learning)</p> <p>Programming project- homework</p> <p>Homework- Revision of content- personalised targets</p>	<p>6 a day</p> <p>Revision workbook</p>	

ICT KS4

Year Group	HT1	HT2	HT3	HT4	HT5	HT6
<b>10</b>	<b>OCR Creative iMedia</b>					
	<p>Introduction lessons x5- skills based i.e. storyboard, mind map, visualisation diagrams etc.</p> <p>RO82-Creating Digital Graphics start week commencing 15/09/2020</p>	<p>Continuation of R082</p> <p>Complete live assignment for R082.</p>	<p>R082: Complete Live Assignment Continue</p>			<p>R087: Creating interactive multimedia products.</p> <p>*Enter R081</p>
	<b>Creative iMedia Year 10 going into Year 11</b>					
	Content	<p>R087: Creating interactive multimedia products.</p> <p>R081:Resit opportunity-revision</p>	<p>Moderation of R087</p> <p>Moderation of R082</p> <p>R081: Resit opportunity-revision</p>			<p>Revision only needed for those who are resitting the exam</p> <p>*Enter R085</p>
<b>11</b>	<b>BTEC Creative Media Production</b>					
	Content	<p><b>Component 2a</b></p> <ul style="list-style-type: none"> <li>-Mood Board</li> <li>-Production Process</li> <li>-Article Writing</li> <li>-Logo Design</li> <li>-Camera Angles</li> <li>-Introduction to Graphics</li> <li>-Introduction to image</li> <li>-Manipulation</li> <li>-Typography</li> <li>-Colour Palette</li> <li>-Front cover</li> <li>-Coverlines</li> <li>-Pre- Production Plan</li> <li>-Production</li> <li>-Post Production</li> <li>-Typography</li> <li>-Article Writing</li> </ul> <p><b>Homework-</b> 2a- using the knowledge organiser to ensure that all of the keywords and terminology have been used. Students also have access to the marking grid which will allow them to see what they have currently achieved and what they need to do to achieve the grade above.</p>	<p><b>Component 2b</b></p> <ul style="list-style-type: none"> <li>-Creation of Pages</li> </ul> <p>Same evidence for Component 2a needs to be completed <b>Component 2c</b></p> <p><b>Homework-</b> 2C-complete self assessment at home- students may use the marking scheme to ensure that keywords have been used. Use of knowledge organiser to ensure all elements have been discussed.</p>		<p>Moderation by the exam board by 15<sup>th</sup> May.</p> <p>Component 2</p>	

Year Group	HT1	HT2	HT3	HT4	HT5	HT6
<b>Travel and Tourism</b>						
<b>10</b>	<p>Content</p> <p>Unit 2 – UK Travel and Tourism destinations. (core internal unit)</p> <p>Learning aim A - Know UK travel and tourism destinations and gateways Travel categories – capital cities, countryside, seaside resorts, historical destinations. Airports and seaports Road and rail travel – motorways, coach travel and rail lines Examples of UK travel – departures, destinations, timings and costs.</p> <p>Homework – Research and identify UK destinations. Learning aim A completion.</p>	<p>Unit 2 – UK Travel and Tourism destinations.</p> <p>Learning aim B - Investigate the appeal of UK tourism destinations for different types of visitors Appeal of UK destinations – Visitor attractions, natural features, accommodation, facilities, arts and entertainment, sightseeing, transport links. Types of visitors – groups, families, specific needs. Increasing appeal – Links to facilities</p> <p>Homework – research and identify UK destinations and their appeal. Learning aim B completion.</p>	<p>Unit 2 – UK Travel and Tourism destinations.</p> <p>Learning aim C: Plan UK holidays to meet the needs of different visitors Research and sources of information – linked to holiday planning for different types of visitors. Planning, budget, timings, motivation and requirements.</p> <p>Plan a UK holiday to meet a specific visitor.</p> <p>Homework – Research and identify, using reliable sources of information for a specific holiday destination within the UK. Learning aim C completion.</p> <p>Intervention – Coursework Unit 2 Learning aim A , B &amp; Completion. Travel and tourism planned destinations. The appeal of UK tourism destinations. UK holiday planning for specific visitors.</p>	<p>Unit 1 – The UK Travel and Tourism Sector</p> <p>Learning aim A: understanding the UK travel and tourism sector and its importance to the UK economy. Learning of types of tourism and travel. Investigating sustainable tourism in an ever-changing environment. Researching the importance of the UK travel and tourism sector supporting the economy.</p> <p>Homework – Investigating UK travel and tourism businesses and their links to the economy and environment.</p>	<p>Unit 1 – The UK Travel and Tourism Sector</p> <p>Learning aim B – to know about the industries, and key organisations, within the travel and tourism sector, their roles and interrelationships Studying travel and tourism roles from tour operators, travel agents, visitor attractions and arts and entertainment. Investigating the relationships between different travel and tourism organisations. Homework – Exploring the different aspects of travel roles contributing to the wider experience of travel and tourism within the UK.</p>	<p>Unit 1 – The UK Travel and Tourism Sector</p> <p>Learning Aim C: understanding the role of consumer technology in the travel and tourism sector. Exploring consumer technology aspects linked to travel and tourism, spanning airports, visitor attractions, tickets and websites. Homework – Identify different technological uses within the UK travel industry for numerous contexts and scenarios. Summer homework – Year 11 preparation Unit 3: The Travel and Tourism Customer Experience. Learning aim A: Investigate travel and tourism customer service.</p>
<b>11</b>	<p>Content</p> <p>Unit 3: The Travel and Tourism Customer Experience. (core internal unit)</p> <p>Learning aim A: Investigate travel and tourism customer service. What is customer service? Purpose of customer service. Aims of customer service. Different types of organisations within the travel and tourism – sizes and types of organisations.</p> <p>Learning aim B - Explore the needs and expectations of different types of customer in the travel and tourism sector. Internal customers within the travel and tourism industry to</p>	<p>Unit 3: The Travel and Tourism Customer Experience.</p> <p>Learning aim B - Explore the needs and expectations of different types of customer in the travel and tourism sector. Needs of different types of customers and responding to those needs. Exploring different expectations of different types of customers.</p> <p>Homework – Investigate and evaluate two travel and tourism organisations that meet and exceed their customer needs. Intervention – coursework</p>	<p>Unit 3: The Travel and Tourism Customer Experience.</p> <p>Learning aim B - Explore the needs and expectations of different types of customer in the travel and tourism sector. Customer service – skills and techniques, policies, impacts and use of technology. Impacts of excellent customer service – turnover, job satisfaction, complaints and sales.</p> <p>Homework – Investigate how businesses can improve their poor customers for a travel and tourism business.</p>	<p>Unit 4: International Travel and Tourism Destinations</p> <p>Learning aim A - to know the major international travel and tourism destinations and gateways Exploring different international destinations and the major gateways for different types of destinations. Homework – Investigating examples of international travel using typical routes.</p>	<p>Unit 4: International Travel and Tourism Destinations</p> <p>Learning aim B - investigate the appeal of international travel and tourism destinations to different types of visitor Exploring travel features for different types of visitors through accommodation, culture and attractions. Establishing the needs and expectations of different types of visitors. Homework – Planning destination travel and tourism for different types of visitors.</p>	<p>Unit 4: International Travel and Tourism Destinations</p> <p>Learning aim C - be able to plan international travel to meet the needs of visitors. Research and sources of information – linked to holiday planning for different types of visitors. Planning, budget, timings, motivation and requirements. Plan international holidays to meet a specific visitor request. Homework – Research and identify, using reliable sources of information for a specific holiday destination internationally.</p>

		<p>include colleagues, directors and suppliers.</p> <p>External customers within the travel and tourism to include new, existing and with special requirements.</p> <p>Homework – Research and identify types of organisations by size. Completion of learning aim A. Investigate two travel and tourism organisations and their roles. Completion of Learning aim B.1.</p> <p>Intervention – coursework Unit 3 Learning aim A completion</p>	Unit 3 Learning aim B completion	Intervention – coursework for both Unit 2 & 3.			
<b>Enterprise and Marketing</b>							
<b>11</b>	Content	<p>R064 Enterprise and marketing concepts.</p> <p>Learning outcome 1 – understanding how to target a market. Market segmentation, segmentations methods. Market research to include secondary and primary research.</p> <p>Learning outcome 2 – understanding what makes a product financially viable. Costs, revenue, profit and break-even.</p> <p>Learning outcome 3 – Understanding product development. Product lifecycle and external factors.</p> <p>Homework: R064 concept revision of LO1, 2 &amp; 3</p> <p>Intervention: R065 coursework</p>	<p>R064 Enterprise and marketing concepts.</p> <p>Learning outcome 4 – understanding how to attract and retain customers. Pricing strategies, advertising and promotion.</p> <p>Learning outcome 5 – understanding factor for considerations when starting up a business. Sources of capital, ownership, business plan contents.</p> <p>Learning outcome 6 – Understanding functional activities needed to support business success. Human resources, marketing, operations and finance.</p> <p>Homework: R064 concept revision of LO4, 5 &amp; 6</p> <p>Intervention: R065 coursework</p>	<p>R065 Design a business proposal.</p> <p>R064 Enterprise and marketing concepts - January first entry exam.</p> <p>Learning outcome 1 – Be able to identify the customer profile for a business challenge.</p> <p>Learning outcome 2 – Complete market research to aid decisions relating to the business challenge.</p> <p>Marketing segmentation and conducting research. Data collection and analysis.</p> <p>Homework – market research collection and data analysis for numerous primary research methods.</p> <p>Intervention: R065 coursework</p>	<p>R065 Design a business proposal.</p> <p>Learning Outcome 3 – Developing a design proposal for a business challenge.</p> <p>Learning outcome 4 – Be able to review whether a business proposal is viable.</p> <p>Creative product design, reviewing various forms of feedback.</p> <p>Calculating profit, predicting sales risk and designing suitable pricing strategies suitable for business proposal.</p> <p>Homework – identifying costs, new business risks and viability of business idea.</p> <p>Intervention: R065 coursework</p>	<p>R065 Design a business proposal.</p> <p>Completing of all R065 learning outcomes.</p> <p>Design a product proposal to meet a business challenge scenario, Progress Ahead. Identifying a customer profile for a product design, developed market research tools. Researched outcomes will be applied to generate product design ideas, assessing the strengths and weaknesses and work collaboratively with peers to gain feedback to inform final design decisions. Financial calculations, risk analysis and demand for viability will all be conducted.</p>	

To equip students with the knowledge and skills required to develop their future employability, linking external economic concepts to critically evaluate local and global business.

