



# CHORLTON HIGH SCHOOL: CURRICULUM

## CHS Curriculum Intent

**SUCCESSFUL:** Learners who gain deep and powerful knowledge in preparation for life; combining academic rigour, curiosity and creative flair.

**CREATIVE:** Learners who are imaginative, optimistic and inventive; finding their voice to become effective communicators prepared for lifelong adaptability

**HAPPY:** Learners who are confident, resilient, well-rounded citizens; they understand the world's communities and are ready to discover their place in it.

## CHS Curriculum Area Framework for Learning – Year 10

<b>SUBJECT</b>	<b>BTEC Level ½ Digital Information Technology</b>
<b>INTENT</b>	



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Year Group	<b>10</b>					
Rationale/ Narrative	Students will be beginning their coursework, completing Component 1 by the end of the year. There will be time left to focus on some of the theory for Component 3 and exam technique.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KNOWLEDGE	<p><i>1.A - Investigate user interface design for individuals and organisations</i></p> <p><b>A1 What is a user interface?</b></p> <p>Learners will investigate different types of user interface used by individuals and organisations.</p> <p>They will investigate how they vary across different uses, devices and purposes.</p> <p>Definition of user interface:</p> <ul style="list-style-type: none"> <li>o software features</li> <li>o human features</li> <li>o how software features can be used to facilitate human-device interaction.</li> </ul> <p>Types of interface:</p> <ul style="list-style-type: none"> <li>o text based</li> <li>o speech/natural language</li> <li>o GUI/WIMPs</li> <li>o sensors</li> <li>o menu/forms.</li> </ul> <p>Range of uses, e.g.:</p> <ul style="list-style-type: none"> <li>o computers</li> <li>o handheld devices</li> </ul>	<p><i>1.A - Investigate user interface design for individuals and organisations</i></p> <p><b>A3 – Design principles</b></p> <p>Learners will investigate a wide variety of design principles that provides both appropriate and effective user interaction with hardware devices.</p> <p>Colours:</p> <ul style="list-style-type: none"> <li>o use of limited range of colours</li> <li>o use of organisational house style</li> <li>o ensuring that colours do not clash</li> <li>o use of textures, e.g. glossy, corporate textures in colours, warm, fabric-style textures.</li> </ul> <p>Font style/size:</p> <ul style="list-style-type: none"> <li>o ensuring text style/style is readable</li> <li>o use of sans serif fonts for screen reading</li> <li>o avoiding decorative fonts.</li> </ul> <p>Language:</p>	<p><i>1.B – Use project planning techniques to plan and design a user interface</i></p> <p><b>B2 – Create a project plan</b></p> <p>Learners will select suitable project planning techniques to develop a project plan for the development of a user interface for a given brief.</p> <p>SMART aims/objectives:</p> <ul style="list-style-type: none"> <li>o Specific</li> <li>o Measurable</li> <li>o Achievable</li> <li>o Realistic</li> <li>o Timely.</li> </ul> <p>Audience and purpose.</p> <p>Project requirements:</p> <ul style="list-style-type: none"> <li>o user requirements</li> <li>o output requirements, e.g. visual, audio, haptic</li> <li>o input requirements, e.g. mouse, keyboard, voice, touch</li> <li>o user accessibility requirements.</li> </ul> <p>Timescales:</p> <ul style="list-style-type: none"> <li>o overall timescale</li> <li>o when tasks will be completed, including sub-tasks</li> </ul>	<p><i>1.C – Develop and review a user interface</i></p> <p><b>C1 – Developing a user interface</b></p> <p>Learners will use their design to produce a user interface.</p> <p>Features:</p> <ul style="list-style-type: none"> <li>o awareness of intended device, e.g. touchscreen, watch</li> <li>o how the user requirements have been met</li> <li>o the overall look and feel</li> <li>o inputs, e.g. key presses, mouse clicks, touch</li> <li>o outputs, e.g. error messages, sounds</li> <li>o navigation methods</li> <li>o ease of use.</li> </ul> <p><b>C2 – Refining the user interface</b></p> <p>Learners will refine their user interface using an iterative process with potential users.</p> <p>Refining the designs by:</p> <ul style="list-style-type: none"> <li>o presenting the design to potential users</li> </ul>	<p><i>Component 3 – Theory</i></p> <p><b>A1 Modern technologies</b> Understand how and why modern technologies are used by organisations and stakeholders to access and manipulate data, and to provide access to systems and tools in order to complete tasks. Learners should understand the implications of these tools and technologies for organisations and stakeholders.</p> <p><b>A2 Impact of modern technologies</b> Learners should understand how modern technologies impact on the way organisations perform tasks. Learners should understand how technologies are used to manage teams, to enable stakeholders to access tools and services, and to communicate effectively. Learners should understand the positive and negative impact that the use of modern technologies has on</p>	<p><i>Component 3 – Theory</i></p> <p><b>C1 Responsible use</b> Learners should consider the responsible use of digital systems, including how systems and services share and exchange data as well as the environmental considerations of increased use.</p> <p><b>C2 Legal and ethical</b> Learners should understand the scope and purpose of legislation (valid at time of delivery) that governs the use of digital systems and data, and how it has an impact on the ways in which organisations use and implement digital systems. Learners should understand the wider ethical considerations of use of technologies, data and information, and organisations’ responsibilities to ensure that they behave in an ethical manner.</p> <p><b>D1 Forms of notation</b></p>



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	<p>o entertainment systems o domestic appliances o controlling devices o embedded systems.</p> <p>Factors affecting the choice of user interface: o performance/response time o ease of use o user requirements o user experience o accessibility o storage space.</p> <p>Hardware and software influences: o operating systems/platforms o types/size of screen, e.g. touchscreen vs traditional displays o types of user input, e.g. keyboard, mouse, voice, gestures o hardware resources available, e.g. processing power, memory o emerging technologies, e.g. new innovations of input techniques.</p> <p><b>A2 Audience Needs</b></p> <p>Learners will investigate the varying needs of the audience and how they affect both the type and the design of the interface.</p> <p>Accessibility needs: o visual</p>	<p>o using appropriate language for user needs, e.g. age-appropriate language o using language that is appropriate for user skill level.</p> <p>Amount of information: o providing appropriate amount of information for the task o making appropriate use of white space.</p> <p>Layout: o consistency throughout the whole interface o keeping the layout as close as possible to user expectations o placing important items in prominent positions o grouping related tasks together o use of navigational components, e.g. search fields, breadcrumbs, icons o use of input controls, e.g. dropdown lists, tick boxes, toggles.</p> <p>User perception of: o colour, e.g. green to indicate go/successful interactions, orange to indicate warnings, red to indicate stop/errors o sound, e.g. positive high-pitched sounds, negative low-pitched sounds o symbols, e.g. green ticks, red crosses</p>	<p>o key milestones, including iterative review points with the user o when resources will be needed.</p> <p>Constraints: o time o resources o task dependencies o security.</p> <p>Risks: o potential risks to project o contingency planning.</p> <p><b>B3 – Create an initial design</b></p> <p>Learners will create an initial design using the design principles listed in section A3.</p> <p>Produce a design that meets: o the user requirements, including input and output requirements o user accessibility needs.</p> <p>Produce a design specification that includes: o visualisation, e.g. storyboards, sketches o hardware requirements o software requirements o a test strategy.</p> <p>Produce a design that allows for:</p>	<p>o refining the interface to account for potential user feedback o repeating the iterative process until the design is complete.</p> <p>Document the changes made through each iteration.</p> <p><b>C3 – Review</b></p> <p>Learners will review the success of the user interface and the use of their chosen project planning techniques.</p> <p>Strengths and weaknesses of the user interface, e.g.: o how well the user requirements have been met o suitability for audience and purpose o ease of use o how effectively the design principles have been met o areas that could be developed to better meet audience needs/design principles.</p> <p>Strengths and weaknesses of the project planning techniques, e.g.: o how well the chosen project planning and</p>	<p>organisations and stakeholders.</p> <p><b>B1 Threats to data</b> Learners should understand why systems are attacked, the nature of attacks and how they occur, and the potential impact of breaches in security on the organisation and stakeholders.</p> <p><b>B2 Prevention and management of threats to data</b> Learners should understand how different measures can be implemented to protect digital systems. They should understand the purpose of different systems and how their features and functionality protect digital systems. Learners should understand how one or more systems or procedures can be used to reduce the nature and/or impact of threats.</p> <p><b>B3 Policy</b> Learners should understand the need for and nature of security policies in organisations. They should understand the content that constitutes a</p>	<p>Learners should be able to interpret and use standard conventions to combine diagrammatical and written information to express an understanding of concepts. Including: data flow diagrams, flowcharts, system diagrams, tables, written information.</p>
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	<ul style="list-style-type: none"> <li>o hearing</li> <li>o speech</li> <li>o motor</li> <li>o cognitive.</li> <li>• Skill level: <ul style="list-style-type: none"> <li>o expert</li> <li>o regular</li> <li>o occasional</li> <li>o novice.</li> </ul> </li> <li>• Demographics: <ul style="list-style-type: none"> <li>o age</li> <li>o beliefs/values</li> <li>o culture</li> <li>o past experiences.</li> </ul> </li> </ul>	<p>o visuals, e.g. photographs, symbols, graphics.</p> <p>Retaining user attention:</p> <ul style="list-style-type: none"> <li>o grabbing attention, e.g. pop-up messages, flashing graphics, sound, animation</li> <li>o ensuring the screen is uncluttered</li> <li>o clearly labelled items/features</li> <li>o use of predetermined/default values for common user inputs</li> <li>o use of autofill to reduce the amount of data entry needed, e.g. postcodes</li> <li>o use of tip text to provide help if the user is unsure what buttons/tools do.</li> </ul> <p>Intuitive design:</p> <ul style="list-style-type: none"> <li>o use graphics to denote what buttons do</li> <li>o helpful pop-up messages</li> <li>o easy-to-use help feature</li> <li>o ensuring consistency</li> <li>o easy reversal of actions.</li> </ul> <p><i>1.B – Use project planning techniques to plan and design a user interface</i></p> <p><b>B1 – Project planning techniques</b></p> <p>Learners will investigate different planning tools and design methodologies that can be used to plan, monitor and execute projects.</p>	<ul style="list-style-type: none"> <li>o increased user confidence/familiarity</li> <li>o reduced learning time of new interfaces/features</li> <li>o reduced time to complete tasks</li> <li>o increased user attention</li> <li>o reduced need for specialised knowledge.</li> </ul>	<p>methodologies met the needs of the task</p> <ul style="list-style-type: none"> <li>o project constraints and how they were overcome</li> <li>o impact of using an iterative design approach</li> <li>o lessons learned.</li> </ul>	<p>good security policy and how it is communicated to individuals in an organisation. To ensure that potential threats and the impact of security breaches are minimised, learners should understand how procedures in security policies are implemented in organisations.</p>	
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		Planning tools: <ul style="list-style-type: none"> <li>• task lists</li> <li>• written or graphical descriptions</li> <li>• Gantt charts</li> <li>• critical path diagram</li> <li>• PERT charts</li> <li>• mood boards</li> <li>• mind maps</li> <li>• Methodologies:             <ul style="list-style-type: none"> <li>• waterfall</li> <li>• iterative, e.g. Agile.</li> </ul> </li> </ul>				
<b>SKILLS</b>					<ul style="list-style-type: none"> <li>. Evaluation skills</li> <li>. Metacognitive practice</li> <li>. Exam technique</li> <li>. Identifying and selecting information</li> <li>. Breaking down key information</li> </ul>	<ul style="list-style-type: none"> <li>. Evaluation skills</li> <li>. Metacognitive practice</li> <li>. Exam technique</li> <li>. Identifying and selecting information</li> <li>. Breaking down key information</li> </ul>
<b>ASSESSMENTS</b>	<ul style="list-style-type: none"> <li>• Classwork piece – user interfaces</li> <li>• Classwork piece – accessibility needs</li> <li>• Home learning task</li> </ul>	<ul style="list-style-type: none"> <li>• Coursework – first marking of 1.A</li> <li>• Coursework – second marking of 1.A</li> <li>• Progress Test</li> </ul>	<ul style="list-style-type: none"> <li>• Coursework – first marking of 1.B</li> <li>• Coursework – second marking of 1.B</li> <li>• Home learning task</li> </ul>	<ul style="list-style-type: none"> <li>• Coursework – first marking of 1.C</li> <li>• Coursework – second marking of 1.C</li> <li>• Progress Test</li> </ul>	<ul style="list-style-type: none"> <li>• Classwork piece –</li> <li>• Classwork piece –</li> <li>• Home learning task</li> </ul>	<ul style="list-style-type: none"> <li>• Classwork piece –</li> <li>• Classwork piece – presentation</li> <li>• Progress Test</li> </ul>