Curriculum Knowledge Map

CHS Computing and Technology 2023/2024

PEARSON BTEC Tech Award Level1/Level2 in Digital Information Technology

Component 1: Exploring User Interface Design Principles and Project Planning Techniques	Component 2: Collecting, Presenting and Interpreting Data	Component 3: Effective Digital Working Practices
Learners will develop their understanding of what makes an effective user interface and how to effectively manage a project. They will use this understanding to plan, design and create a user interface. **Learning outcomes** ✓ Understand interface design for individuals and organisations. ✓ Be able to use project planning techniques to plan, design and develop a user interface. ✓ Be able to review a user interface.	Learners will understand the characteristics of data and information and how they help organisations in decision making. They will use data manipulation methods to create a dashboard to present and draw conclusions from information. **Learning outcomes** ✓ Understand how data is collected and used by organisations and its impact on individuals. ✓ Be able to create a dashboard using data manipulation tools. ✓ Be able draw conclusions and review data presentation methods.	Learners will explore how organisations use digital systems and the wider implications associated with their use. **Learning Aims:** A. **Modern Technologies** B. **Cyber Security** C. **The Wider Implications of Digital Systems** D. **Planning & Communication in Digital Systems**
Components 1 and 2 are assessed through non-exam internal assessment. The non-exam internal assessment for these components has been designed to demonstrate application of the conceptual knowledge underpinning the sector through realistic tasks and activities. This style of assessment promotes deep learning through ensuring the connection between knowledge and practice. • Non-exam internal assessment set by • Pearson, marked by the centre and • moderated by Pearson. • The Pearson-set Assignment will be • completed in approximately 6 hours of • supervised assessment. • 60 marks. •		External assessment set and marked by Pearson, completed under supervised conditions. The assessment will be completed in 1 hour. 30 minutes within the period timetabled by Pearson. 60 marks.

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PEARSON BTEC Tech Award ½ in Digital Information Technology

<table>
<tr><th>Year 11</th><th colspan="2">AUTUMN</th><th colspan="2">SPRING</th><th colspan="2">SUMMER</th></tr>
<tr><td></td><td>C2 Theory</td><td>C2 Coursework</td><td>Unit Name</td><td>Unit Name</td><td>Unit Name</td><td>Unit Name</td></tr>
<tr><td></td><td>Be able to create a dashboard using data manipulation tools</td><td></td><td>Enterprise and Marketing Concepts (RO67 External Exam)</td><td>Enterprise and Marketing Concepts (RO67 External Exam)</td><td>Enterprise and Marketing Concepts (RO67 External Exam)</td><td></td></tr>
<tr><td rowspan="2">Declarative
What should they know?</td><td rowspan="2">B1 Data Processing Methods
Learners will understand how data can be imported from an external source. They will then explore how to accurately apply data processing methods to aid decision making.
These include:
● data manipulation methods:
o importing data, to include from other files, the internet
o formulae, to include add, divide, subtract, multiply
o functions, to include SUM, AVERAGE, MIN, MAX
o sorting, to include sorting multiple columns and values.
● advanced manipulation methods:
o decision-making functions, to include IF, WHATIF, SUMIF</td><td rowspan="2">During the Summer 2 and Autumn 1 term, students developed their knowledge and understanding of the characteristics of data and information and how they help organisations in decision making. They then explored data manipulation methods used to create dashboards in order to present and draw conclusions from information.
Non-exam internal assessment set by Pearson, marked by the centre and moderated by Pearson.
The Pearson-set Assignment will be completed in approximately 6 hours of supervised assessment.
60 marks.</td><td colspan="2">Continuation of Coursework Task carrying on from Autumn 2.
Following on from this, students will prepare for their final assessment for Component 3 worth 40%.</td><td colspan="2">During this half term students will prepare for their final assessment for RO67. As students can take this assessment twice, this will be preparation for a re-sit attempt. This assessment is worth 40% of their final grade.
Students will also review coursework pieces assigned to them so make sure these are ready for submission.</td><td rowspan="2"></td></tr>
<tr><td colspan="4">Component 3 Theory and Assessment Preparation.
Students should know the content covered within Spring 2 and Summer 1 of Year 10, as an overview, students should have thorough understanding and knowledge in the below areas:
A Modern technologies
Learners should understand how current and modern technologies are used by and have an impact on organisations and their stakeholders. Learners need to know the ways in which organisations and associated individuals use modern technologies to exchange information, communicate, and complete work-related tasks. Learners must be able to apply their knowledge to a range of vocational contexts.
B Cyber security
Students must understand how the increased reliance of organisations on digital. systems to hold data and perform vital functions presents a range of challenges and dangers. They should understand the nature of threats to digital systems and ways. that they can be mitigated through organisation policy, procedures, and the actions of individuals. They should be able to apply knowledge of cyber security to a range of vocational contexts.
C The wider implications of digital systems
Learners should understand the wider implications of digital systems and their use. Learners should understand how legislation covering data protection, computer crimes. and intellectual property has an impact on the way that organisations and individuals. use digital systems and data. Learners should understand the procedures that.</td></tr>
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	o lookup functions, to include VLOOKUP, HLOOKUP o count functions, to include COUNTBLANK, COUNTIF, COUNTA o logical operators, to include NOT, AND, OR o outline, to include group, ungroup o subtotal to include AVERAGE, SUM, MIN, MAX, COUNT, COUNTA o filtering, to include greater than, less than, equals, contains, begins with, ends with, text to columns, to include delimited, fixed width. ● other processing methods: o absolute and relative cell referencing, to include use of dollar sign ($) and named cells. o macros, to include for automatic navigation, change graph options, change data ranges. o multiple and linking worksheets, to include for dashboard and raw data o cell comments o alternative views, to include hiding/unhiding cells, freezing planes o conditional formatting, to include data bars, colour scales, icon sets		organisations must follow in order to conform to legal requirements and professional guidelines. **D Planning and communication in digital systems** Learners should be able to interpret and use standard conventions to combine. diagrammatical and written information to express an understanding of concepts.	
Procedural *What should they be able to do?*	**B2 Producing a dashboard** Learners will use a dashboard to select and display information summaries based on a given data set. ● Show data summaries from data sets: o totals o counts		Component 3 builds on knowledge, understanding and skills acquired and developed across the qualification. It requires learners to select and integrate knowledge and understanding synoptically from all components. Students are required to apply their knowledge and understanding to given scenarios or contexts. Students should be able to: • Analyse information in a range of vocational contexts so that students develop a greater understanding of the use of digital systems by organisations and so that they can make reasoned judgements on the systems.	

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	o averages o percentages o sales breakdowns o departmental/section breakdown. ● Use and produce appropriate presentation methods: o tables o pivot tables o sparklines o graphs/charts, including dynamic charts/graphs o form controls, to include button, combo box, check box, spin button (spinner), dropdown menu, option button. ● Use appropriate presentation features: o font size, style and colour o merge cells o text wrap o cell borders and shading o graphics o axis labels o titles, including overall and section titles o conditional formatting **C1 Drawing conclusions based on findings in the data** Learners will use a dataset and dashboard to present findings and draw conclusions based on their findings. ● Findings, to include: o trends o patterns o possible errors. **C2 How presentation affects understanding** Learners will investigate how well the presentation methods and features listed in B2 have been used, to ensure they do not lead to: ● information being misinterpreted ● information being biased ● inaccurate conclusions being made. **Coursework Tasks.** • In response to Task 1, learners will explore the suitability of two given data collection methods used by an organisation for a given dataset. • In response to Task 2, learners will carry out different manipulation and processing methods in order to create a dashboard, providing data summaries using appropriate presentation methods and features.	• Demonstrate knowledge of facts, terms, processes and issues in relation to digital information technology • Demonstrate an understanding of facts, terms, processes and issues in relation to digital information technology • Apply an understanding of facts, terms, processes and issues in relation to digital information technology • Make connections with the concepts, issues, terms and processes in digital information technology • Be able to interpret information presented using different forms of notation in a range of contexts • Be able to present knowledge and understanding using different forms of notations **To be successful within the external component and assessment, students should be able to:** • **Annotate** - Identify and label the diagram and state what each feature /process /characteristic is for, their purpose, etc. • **Describe** - Present two (or more) linked descriptive points on characteristics, features, uses or processes. Do not need to include a justification or reason. • **Discuss** - Consider the different aspects in detail of an issue, situation, problem or argument and how they interrelate. • **Draw** – Produce a diagram or process flow using information from the given context. • **Evaluate** - Consider various aspects of a subject's qualities in relation to its context such as: strengths and weaknesses, advantages and disadvantages, pros and cons. Come to a judgement supported by evidence which will often be in the form of a conclusion. • **Explain** – Present one point that identifies a reason, way, benefit, or importance, etc. and a second point that justifies/explains the first point. Where used, a third point is a further expansion of the justification/explanation. • **Give** - Provide a response, i.e. feature, characteristic or use of. • **Identify** - Select the correct answer from the given context. • **State** - Recall from memory facts, terms, processes, legal implications, etc. or provide the correct answer to the given context.	

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	• In response to Task 3, learners will analyse a dataset, present their findings and draw conclusions based on these findings. They will explore how presentation affects understanding in the dataset and how they could be improved.							
Disciplinary Literacy (Tier 3 Vocab)	Tier 3 Disciplinary literacy linked to the unit of study: • Invasion of Privacy • Fraud • Vulnerable • Manipulation • Import • Formulae • Functions • SUM • AVERAGE • Cell • Macro	Tier 3 Disciplinary literacy linked to the unit of study: • Dashboard • Summary • Data set • Sales Breakdown • Pivot Tables • Spreadsheet • Table • Sheet • Cell Referencing • Conclusion • Trends • Patterns • Errors • Misinterpreted • Biased	• Ad-hoc • Open Wi-Fi • Tethering • Hotspot • Rural • Infrastructure • Blackspots • Access rights • Cloud storage • Synchronization • 24/7/365 • Scalability • Applications • Collaboration • Online/offline • Disaster Recovery • Policies • Compatibility • Maintenance • World Teams • Multicultural • Inclusivity • Flexibility • Scheduling • Remote Working • unintentional disclosure	• information theft • security controls • security breach • internal threat • password • access levels • biometrics • two-factor authentication • ethical hacking • penetration testing • system analysis • firewall • interface design • autocomplete • anti-virus • device hardening • encryption • cyber security • policy • acceptable use policy (AUP) • disaster recovery • backups	• Shared data • location-based data • GPS • transactional data • cookies • data exchange • privacy • ethics • manufacture • disposal • energy • waste • rare materials • upgrade • replace • policy settings • auto power off • power-saving • equal access • equality • net neutrality	• acceptable use policies • scope • assets • monitoring • sanctions • social media • professional life • data protection • lawful processing • accuracy • data subject • right to be forgotten • trademarks • patents • copyright • permissions • licensing • attribution • unauthorized access • unauthorized modification	• malware • Data flow diagram • Information flow diagram • System diagram • Flowchart • Input • Output • Process • Decision • Variable • Chart • Range • Maximum • Minimum • Data • Information • Table	**Command Words**
Assessment	**Key assessed piece** Baseline /End of topic assessment – Data Manipulation Methods. Students will complete a summative assessment linked to the topics covered.	**Key assessed piece** Coursework progress (RO69) – this coursework piece will be formally assessed to allow for feedback and improvements to be made based on the first elements of the task. *Total marks for this piece of coursework is 60.*	**Key assessed piece** Students will complete their first attempt at the external examination set by Pearson. This will assess all elements of Component 3.	**Key assessed piece** Students will have focused assessment practice during this half term. Students' assessment tasks will either; • Look at methods of developing or improving coursework tasks. • Support progress and development for external assessment tasks.	**Key assessed piece** Students will complete their second attempt at the external examination set by Pearson (if appropriate). This will assess all elements of Component 3			