

KS5 Curriculum Overview: Level 3 Alternative Academic Qualification - BTEC National in Information Technology (Extended Certificate)

Rationale:

The Pearson Level 3 Alternative Academic Qualification BTEC National in Information Technology (Extended Certificate) allows students to study the fundamental knowledge of Information Technology covering the role and implications of using Information Technology systems and cyber-security threats and how to manage attacks. Students will also develop important skills for creating websites to meet a specific purpose and to manage data through the development of a relational database solution. There are two examined units and two internally assessed units where students will engage in practical tasks to develop their Information Technology skills and knowledge

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points
Y13 Autumn	<p>Students will study cyber security threats and vulnerabilities, the methods used to protect organisations against threats and managing security incidents.</p> <p>AO1 Demonstrate knowledge and understanding of cyber security terms, security threats, system vulnerabilities and security protection methods, forensic procedures and implications resulting from threats.</p> <p>AO2 Apply knowledge and understanding to security threats, system vulnerabilities and security protection methods, forensic procedures and implications by selecting appropriate security tools and methods.</p>	<p>End of module test for each of the AO's.</p> <p>Final exam in January</p>	Set in line with department policy	Power points resources that have a combination of task	<ul style="list-style-type: none"> • Apply their knowledge and understanding of the function and impact of internal and external threats. • Understanding of the different types of systems and their vulnerabilities, tools to assess the vulnerabilities and the risk management measures. • know the responsibilities in relation to current legal legislation. • Use and effectiveness of security measures for software and hardware, use of encryption and precautions to protect wireless local area network (WLAN) • Understanding of the security issues of networked systems and how to secure them in organisational contexts. Students should be able to interpret and amend schematic diagrams.

	AO3 Analyse and evaluate security threats, system vulnerabilities and security protection methods, forensic procedures and implications for cyber security scenarios.				<ul style="list-style-type: none"> • Application and features of hardware components: • Know and understand the governance policies and documents needed to establish and maintain security on an ongoing basis. • The methods for collecting forensic evidence following a security incident
Y13 Spring	<p>Understand how the principles of website development are used to create effective websites.</p> <p>Explore website design skills and techniques to meet client requirements. C</p>	Unit 2 External Exam			<ul style="list-style-type: none"> • Understand different purposes of websites including: <ul style="list-style-type: none"> – eCommerce – Providing information – Promoting products or services – Providing entertainment – Understand how target audience is used when creating effective websites including: <ul style="list-style-type: none"> – Demographics • Understand the principles of website development including: <ul style="list-style-type: none"> – Page layout (grid layout, visual hierarchy, grouping elements, separating content) – Navigation (fixed navigation bars, hamburger menu)

					<ul style="list-style-type: none"> – Content (written content, visual content) • Understand the features of user experience including: <ul style="list-style-type: none"> – Accessibility (colour contrast, colour combinations, closed captions, breadcrumbs, customisable features) – Consistency (branding, page layout, design, user interface (UI) elements) – User-friendly (simplicity, intuitive, engaging, responsive) – Use of motion and movement (micro-interactions, animation, parallax scrolling, image sliders, purpose of motion) – Consistency (page layout, design) • Use of motion and movement (animation, image sliders) • Understand how to establish a client's requirements given in a client brief, including: <ul style="list-style-type: none"> – The purpose of a website (problem to be solved, key messages, user motivations and goals) • Be able to research and identify new ideas including:
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					<ul style="list-style-type: none"> – Existing websites • Be able to structure a website using a site map which includes: <ul style="list-style-type: none"> – Number of pages – Content and features – Site navigation <p>At the end of this Learning Aim all students should be able to:</p> <ul style="list-style-type: none"> • Be able to create wireframes using: <ul style="list-style-type: none"> – Paper sketches – UX design software • Be able to use wireframing techniques including: <ul style="list-style-type: none"> – Hierarchy of page elements – Grouping elements • To understand how create design ideas and visual style for websites including: <ul style="list-style-type: none"> – Branding • Be able to review fitness for purpose including: <ul style="list-style-type: none"> – Meeting client requirements • Be able to source assets for a website including: <ul style="list-style-type: none"> – Stock images • Understand what image editing software is
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					<ul style="list-style-type: none"> • Be able to create visual assets using image editing techniques including: <ul style="list-style-type: none"> – Image size, cropping, rotating, resizing • Be able to use image manipulation techniques including: <ul style="list-style-type: none"> – Being able to use transparency • Be able to save and export images using appropriate file formats • Understand key features of vector graphics • Be able to use basic vector graphics drawing techniques including: <ul style="list-style-type: none"> – Pen Tool or Curves – Basic shapes – Fills and strokes • Be able to create visual assets using vector graphic drawing techniques including: <ul style="list-style-type: none"> – An icon • Be able to prepare video assets including: <ul style="list-style-type: none"> – Sourcing video – Trimming video • Be able to export video using a suitable video format
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					<ul style="list-style-type: none"> • Know the different file formats used for: <ul style="list-style-type: none"> – Bitmap images – Vector graphics – Video <p>Most students will be able to:</p> <ul style="list-style-type: none"> • Be able to create wireframes using: <ul style="list-style-type: none"> – Graphic design software • Be able to use wireframing techniques including: <ul style="list-style-type: none"> – Aligning elements – Accurate dimensions • To understand how create design ideas and visual style for websites including: <ul style="list-style-type: none"> – Colour palette – Typography • Be able to review fitness for purpose including: <ul style="list-style-type: none"> – User experience • Be able to create headlines and copy for a website including: <ul style="list-style-type: none"> – Short sentences and short paragraphs that avoid jargon and use an appropriate mode of address
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					<ul style="list-style-type: none"> • Be able to source assets for a website including: <ul style="list-style-type: none"> – Icons – Video • Be able to create visual assets using image editing techniques including: <ul style="list-style-type: none"> – brightness and contrast and colour adjustments • Understand image composition including: <ul style="list-style-type: none"> – Rule of thirds, framing, symmetry, negative space • Be able to use image manipulation techniques including: <ul style="list-style-type: none"> – Using layers – Isolating objects and backgrounds • Be able to save and export images using appropriate file formats • Understand key features of vector graphics • Be able to use basic vector graphics drawing techniques including: <ul style="list-style-type: none"> – Pen Tool or Curves – Basic shapes – Fills and strokes
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					<ul style="list-style-type: none"> • Be able to create visual assets using vector graphic drawing techniques including: <ul style="list-style-type: none"> – A logo • Be able to prepare video assets including: <ul style="list-style-type: none"> – Using multiple video tracks – Applying transitions • Be able to export video using a suitable video format • Understand the different types of compression: <ul style="list-style-type: none"> – Lossy compression – Lossless compression • Know the different file formats used for: <ul style="list-style-type: none"> – Bitmap images – Vector graphics – Video • Be able to manage assets including: <ul style="list-style-type: none"> – A logical folder structure – Appropriate naming conventions
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Y13Summer	Develop a website to meet client requirements	This unit is internal assessed through a Pearson-Set Assignment brief (PASB)			<p>At the end of this Learning Aim all students should be able to:</p> <ul style="list-style-type: none"> • Understand how HTML is used to create web pages <ul style="list-style-type: none"> – Know different software used to make web pages – Be able to create and view source code • Understand how to create HTML for the content of a web page including: <ul style="list-style-type: none"> – Web page head, title and body – Headings – Paragraphs and line breaks • Be able to create HTML needed to add navigation including: <ul style="list-style-type: none"> – Internal hyperlinks – Relative URLs – Image hyperlinks • Understand how to create HTML to add media to web pages including <ul style="list-style-type: none"> – Images • Be able to use HTML to create forms on a web page including: <ul style="list-style-type: none"> – Form actions and methods
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					<ul style="list-style-type: none"> – Input fields including text, email, password and text areas – Submit buttons • Understand the purpose of Cascading Style Sheets (CSS) • Be able to control the following styling with CSS: <ul style="list-style-type: none"> – Colour (including text colour, background colour, border colour) – Typography and text formatting (including text alignment, text decoration, font family and font style) • Use CSS to alter the styling of: <ul style="list-style-type: none"> – Images (including resizing and borders) • Understand the CSS box model including: <ul style="list-style-type: none"> – Margin, border and padding