Curriculum Map

Subject: Information technology (IT)   **Year Group: 12**

Unit 1: Information technology (IT) systems have a significant role in the world around us and play a part in almost everything we do. Having a sound understanding of how to effectively select and use appropriate IT systems will benefit you personally and professionally. You will explore the relationships between the hardware and software that form an IT system, and the way that systems work individually and together, as well as the relationship between the user and the system. You will examine issues related to the use of IT systems and the impact that they have on organisations and individuals. In this unit you will draw on your learning from across your programme to complete assessment tasks. This unit will give you a fundamental and synoptic understanding of all areas of IT, supporting your progression to an IT-related higher education course.

Unit 6: Website Development. In this unit, you will review existing websites – commenting on their overall design and effectiveness. You will use scripting languages such as Hypertext Markup Language (HTML), Cascading Style Sheets (CSS) and JavaScript and a simple text editor, or rapid application development tools. Finally, you will reflect on the website design and functionality using a testing and review process. Many software developers, database experts and systems managers need web-client development skills as an integral part of their overall portfolio of expertise. This unit will prepare you for employment as a website developer or as a website development apprenticeship.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content	**Unit 1:** Information Technology Systems (externally assessed) **Key Areas:** **A: Digital devices in IT systems** A1 Digital devices, their functions and use A2 Peripheral devices and media A3 Computer software in an IT system	**Unit 1:** Information Technology Systems (externally assessed) **Key Areas:** **C: Operating online** C1 Online systems C2 Online communities **D: Protecting data and information** D1 Threats to data, information and systems D2 Protecting data **Keywords:** cloud storage, cloud computing, social media, blog, microblog, vlog, wiki,	**Unit 1:** Information Technology Systems (externally assessed) **Key Areas:** **E: Impact of IT systems** E1 Online services E2 Impact on organisations E3 Using and manipulating data **F: Issues** F1 Moral and ethical issues F2 Legal issues **Keywords:** Retail, financial services, education and training, news and information, entertainment and	**Unit 6:** Website Development (internally assessed) **Key Areas:** **Learning aim A:** Understand the principles of website development A1 Purpose and principles of website products A2 Factors affecting website performance **Keywords:** Web 2.0, web server, server-side scripts, local client	**Unit 6:** Website Development (internally assessed) **Key Areas:** **Learning aim B:** Design a website to meet client requirements B1 Website design B2 Common tools and techniques used to produce websites **Keywords:** Problem definition, Purpose requirements,	**Unit 6:** Website Development (internally assessed) **Key areas:** **Learning aim C:** Develop a website to meet client requirements C1 Client-side scripting languages C2 Website development C3 Website review C4 Website optimisation

	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	A4 Emerging technologies A5 Choosing IT systems **B: Transmitting data** B1 Connectivity B2 Networks B3 Issues relating to transmission of data **Keywords:** multifunctional devices, personal computers, mobile devices, servers, entertainment systems, navigation systems, data capture and collection systems, communication devices and systems, input devices, output devices, storage devices, manual and automatic data processing, accessibility	chatrooms, instant messaging, podcasts, forums, viruses, malware, hackers, phishing, file permissions, access levels, backup and recovery procedures, passwords, physical access control, digital certificates, protocols	leisure, productivity, booking systems, transactional data, targeted marketing, collaborative working, stock control, data logging, data analysis, manufacturing, primary and secondary data, verification, validation, data modelling, accessibility, privacy, environmental, netiquette, globalisation, freedom of speech, censorship, acceptable use policy, health and safety, copyright, computer misuse, protection of data, Computer Misuse Act, Data Protection Act, The Health and Safety (Display Screen Equipment) Regulations, Disability Discrimination Acts, Equality Act, British Standards Institute (BSI) codes of practice, Open Accessibility Framework (OAF), Web Content Accessibility Guidelines (WCAG) 1.0 and 2.0 World Wide Web Consortium (W3C)	machine, client-side scripts	website design principles, prototype, storyboard, mood board, wireframe, site maps, search engine optimisation, HTML, HTML5, forms, text field, text area, buttons, radio buttons, check boxes, navigation, menus, hyperlinks, accessibility features, CSS, hotspots, pop-ups, buttons, menus, rollover images, W3C	C5 Skills, knowledge and behaviours **Keywords:** client-side scripts, Interactivity, usability, web-scripting languages, JavaScript, VBScript, constructs, browser detection, HTML tags, CSS frameworks, box model, web server, computer/device,

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	devices, real-time operating system, single-user single task, single-user multi-tasking, multi-user, GUI, command line, menu based, LAN, WAN, PAN, VPN, protocols, bandwidth, latency, lossy and lossless compression					
Skills	➢Analytical skills ➢Critical-thinking skills ➢Problem-solving skills ➢Programming skills ➢Evaluative skills ➢Creative skills ➢Reflective skills					
Key questions	➢ Explain the concepts and implications of the use of, and relationships among, the devices that form IT systems. ➢ Describe the features and uses of digital	➢ Discuss the implications for individuals and organisations of using online IT systems. ➢ Explain the features of online communities and the implications of their widespread use for organisations and individuals.	➢ Discuss the uses, issues and implications of IT systems and their impact on individuals and organisations. ➢ Explain the uses, processes and implications for individuals and organisations of accessing and using data and	➢ A.P1 Compare the principles of website design used in two websites, including their suitability for the intended audience and intended purpose. ➢ A.M1 Analyse how the principles	➢ B.P2 Produce designs for a website that meet client requirements. ➢ B.P3 Review the website design proposals with others to identify and inform improvements ➢ B.M2 Justify the design	➢ C.P4 Produce a website for an intended audience and purpose. ➢ C.P5 Test the website for functionality, compatibility and usability. ➢ C.P6 Review the extent to which the website

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	devices in IT systems to meet the needs of individuals and organisations. ➢ List the features and uses of peripheral devices and media in IT systems to meet the needs of individuals and organisations. ➢ Describe the types of operating systems. ➢ Explain the role of the operating system. ➢ Discuss how emerging technologies can be used by individuals and	➢ Explain the issues and implications of storing and transmitting information in digital form. ➢ Discuss the issues and implications of storing and transmitting information in digital form. ➢ Explain the features, uses and implications of systems and procedures used to protect the data of individuals and organisations.	information in digital form. ➢ Explain the characteristics and implications of user interfaces for data collection and processing systems. ➢ Discuss the implications, for individuals, organisations and wider society, of moral and ethical factors of using information technology. ➢ Explain the legal issues relating to the use of IT systems and the implications for individuals, organisations and wider society. ➢ Explain the role of current legislation in protecting users and their data from attack and misuse. ➢ Explain the guidelines and current legislation designed to ensure the accessibility of IT systems. ➢ Discuss the moral and ethical factors	of website design are used to produce creative, high performance websites that meet client requirements ➢ A.D1 Evaluate how the principles of website design are used to produce creative, high performance websites that meet client requirements	decisions, explaining how they will meet the user's needs and be fit for purpose. ➢ BC.D2 Evaluate the design and optimised website against client requirements.	meets client requirements. ➢ C.M3 Optimise a website to meet client requirements. ➢ BC.D3 Demonstrate individual responsibility, creativity and effective self-management in the design, development and review of a website

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	organisations. ➢ Explain the concepts, process and implications of transferring data within and between IT systems. ➢ Discuss how the features and processes of data transmission affect the use and performance of IT systems.		of the use of IT systems.			
Assessment	**Unit 1 - External Assessment:** This unit is externally assessed through a written examination set and marked by Pearson. The examination is two hours in length. The assessment availability is on January and May/June of each year. **Unit 6 - Internal Assessment:** This unit is internally assessed through a series of assignments.					
Literacy/ Numeracy/ SMSC/ Character	Demonstrate and apply knowledge and understanding of information technology terms, standards, concepts and processes. Analyse and evaluate information, technologies and procedures in order to recommend and justify solutions to IT problems. Plan, record and set relevant targets with timescales. Review and respond to outcomes, including the use of feedback from others. Demonstrate own behaviours and their impact on outcomes to include professionalism, etiquette, supporting others, timely and appropriate leadership, accountability and individual responsibility. Evaluate outcomes to help inform high-quality, justified recommendations and decisions.					