Curriculum Sequencing Grid: *(KS5 – BTEC IT - Diploma)*

Year 12	**Unit 2**	**Unit 3**	**Unit 1**	**Unit 5**
Unit (Tablet in 39 week plan)	Creating Systems to Manage Information	Using Social Media in Business	Information Technology Systems	Data Modelling
Key Retainable Knowledge (Required for Y11/13) • What… How…. Why….	• Create a relational database management system • Manipulate data structures • Normalise data • Design relational database tables • Design suitable user interfaces • Use queries and reports • Use validation and verification methods to keep data secure • Present and extract key pieces of data • Test and refine a database solution • Evaluate database design • Evaluate database testing • Evaluate the overall effectiveness of the database	• Develop social media websites • Understand how businesses use social media • Use features of social media websites • Understand how businesses use social media • Assess risks and issues to avoid security issues • Plan a potential use of social media within a business • Understand business requirements • Develop a social media policy • Create accounts and profiles • Create content and publication • Gather and analyse data	• Define digital devices, their functions and use • Define the function and use of digital devices • Understand computer software used in an IT system • Understand emerging technologies including how they can be used by an individual or an organisation • Understand how IT systems are chose and what factors affect final choices • Understand how to transmit data through connectivity and networks • Understand the implications of online systems and communities • Understand the issues and implications of storing and transmitting information in digital form • Understand how the features and implications	• Understand the stages in the decision making process • Understand features used to support data modelling including entering and editing data and using formulae and functions • Using data modelling to consider alternatives and identifying the inputs required for the model • Document and justify decisions based on the requirements of the brief • Design a functional spreadsheet which meets user requirements • Design and produce a spreadsheet that focuses on layout, presentation, processing, data entry and validation • Review and refine data model designs by working with clients and potential users to gather feedback

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			of using online services affect organisations and individuals • Understand moral, ethical and legal issues	• Use a range of formulae, functions and logical functions to design and develop a data model solution • Test the data model solution use formative and summative testing including functionality and acceptance • Review and refine the data model solution, making improvements to meet client requirements
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	• Database • Table • Form • Validation • Query • Relational • Report • Macro • Primary/foreign key	• Social Media • Cookies • Brand • Marketing • Target Audience • Risks	• Digital Devices • Transmitting Data • Protecting Data • Impact of It	• Spreadsheet • Data Types • User Form Objects • Formula • Functions • Features
Opportunities for Reading	• BBC Bitesize • Teach ICT • Teach Computing • Revision guide • Specification • CAB twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Revision guides • Specification • CAB twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Revision guides • Specification • CAB twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Revision guides • Specification • CAB twitter feed

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Developing Cultural Capital (exposure to very best- essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)	• BBC BITESIZE • TEACH ICT • Twitter	• BBC BITESIZE • TEACH ICT • Twitter • Guest expert	• BBC BITESIZE • TEACH ICT • Twitter	• BBC BITESIZE • TEACH ICT • Twitter
Cross Curricular Links (Authentic Connections)	• Maths • English Language	• English Language • Business Studies	• English Language	• Business Studies • Maths
Key Assessment	• This unit is externally assessed through an examination and marked by Pearson. • The examination will be completed under supervised conditions for 5 hours in a two-day period set by Pearson, which is to be completed over 2 sessions. • The set task will assess learners' ability to design, create, test and evaluate a relational database system to manage information.	• Explore the impact of social media on the ways in which businesses promote their products and services • Develop a plan to use social media in a business to meet requirements • Implement the use of social media in a business.	• This unit is externally assessed through a written examination set and marked by Pearson. • The examination is two hours in length. Learners will be assessed on their understanding of computer systems and the implications of their use in personal and professional situations.	• Investigate data modelling and how it can be used in the decision-making process • Design a data model to meet client requirements • Develop a data model to meet client requirements.

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Year 13	**Unit 4**	**Unit 8**	**Unit 9**	**Unit 11**
Unit (Tablet in 39 week plan)	Programming	Computer Games Development	IT Project Management	Cyber Security and incident Management
Key Retainable Knowledge (Required for Y11/13) • What… How…. Why….	• Examine the computational thinking skills and principles of computer programming • Understand decomposition by identifying and describing problems and processes • Use pattern recognition to identify common elements or features in problems or systems • Using software applications to solve problems and fulfil needs, including gaming, entertainment and social media • Understand the features and characteristics of programming languages, e.g. python • Use different languages to construct and implement different programs using constants, variables and logical operations	• Identify social trends used within computer gaming including popular genres • Explore the technologies used in computer gaming, including benefits and limitations • Understand the use of game engines, capabilities and how they aid computer game developers • Design a computer game to meet client requirements • Understand computer games design processes and techniques • Assess game play features to include; interaction, challenges, rewards and difficulty • Undertake a brief analysis to include audience, purpose and client requirements • Review and refine design of game	• Understand that a project has a defined beginning and end point in time • Understand that project management is the art of planning, organising and controlling project activities • Explore different methodologies and understand the aims, phases, benefits and limitations of each one • Understand project management structures, including user requirements and project job roles • Carry out a project initiation for an IT project • Generate ideas and a suitable solution by researching different tools • Conduct a feasibility study, including technical, economic and legal assessments • Create documentation to outline the project	• Understand how internal threats occur, including employee sabotage, unauthorised access and weak cyber security measures • Understand how external threats function • Understand that the impact of a credible threat is likely to result in loss • Understand that different types of computer and/or system are exposed to different threats and that they contain different vulnerabilities • Understand how the current and relevant EU GDPR and UK legislation apply to different systems • Understand the use and effectiveness of physical security measures including, site security locks and data back-ups

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	• Create a software development life cycle • Design a solution to a software problem • Develop and test software solutions to meet user requirements and client briefs • Review and evaluate software solution, taking into account skills, knowledge and behaviour	• Legal and ethical issues	requirements including an introduction, description and success criteria • Create a risk analysis to avoid crisis management • Undertake the closure of a project by reflecting on the success of personal performance and the project outcome • Explore the scope of lessons learned and how pm skills have being used	• Understand the security implications of different networked systems • Understand different features of networks • Understand application and features of hardware components • Understand the application and function of, ports, packets and NAT • Create a cyber-security protection plan • Assess the risk severity for each threat that could result in some form of loss • Create internal policies which includes a back-up policy, security audits and data protection policies • Understand the forensic collection of evidence following a security incident
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	• Decomposition • Pattern recognition • Variables • Constants • Key processes • Inputs • Outputs • Constructs	• Social trends • A.I. • Emerging technologies • Integrated services • Memory • Input • Output • Storage	• Project Management • Project Life Cycle • Methodologies • Feasibility Study • Vulnerabilities • Architecture • Cyber Security • Forensic Procedures	• Anti-malware software • Cloud computing • Cyber security plan • Domain • Firewall • Hacker • Risk assessment

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	• Textual programming • Variables • String handling • Iteration	• Operating system • Graphic processing • Omnipresent • Avatar		• Security incident management policy • Security requirements • Service provider agreement
Opportunities for Reading	• BBC Bitesize • Teach ICT • Teach Computing • Code Academy • Code Combat • CAB Twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Code Academy • Code Combat • NVGD • TNVGM • CAB Twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Code Academy • Code Combat • CAB Twitter feed	• BBC Bitesize • Teach ICT • Teach Computing • Code Academy • Code Combat • CAB Twitter feed
Developing Cultural Capital (exposure to very best- essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)	• Guests speakers • Code Academy • Code Combat • Know it all ninja	• TNVGM • NVGD • Guest Speakers • Know it all ninja	• Guests speakers • Code Academy • Code Combat • Know it all ninja	• Cyber discovery • Know it all ninja
Cross Curricular Links (Authentic Connections)	• Maths (basic numeracy) • English Language (basic SPAG)	• English language (basic SPAG) • Maths (basic numeracy) • Art (drawing plans) • Sociology (understanding groups for target audiences)	• English language (SPAG) • Sociology (understanding groups for target audiences)	• ICT (Cyber-security) • Business (Risk-analysis) • PSHE (Social issues)
Key Assessment	• Examine the computational thinking skills and principles of computer programming	• Investigate technologies used in computer gaming • Design a computer game to meet client requirements	• Investigate the principles and methodologies of IT Project Management as used in industry	• Unit is externally assessed by a task set and marked by Pearson. • The set task will be completed under

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	• Design a software solution to meet client requirements • Develop a software solution to meet client requirements	• Develop a computer game to meet client requirements	• Carry out a project initiation for an IT project • Carry out the planning, execution, monitoring and controlling of an IT project, using an appropriate methodology • Undertake the closure of a project by reflecting on the success of personal performance and the project outcome	supervised conditions in sessions. • The set task will assess learner's ability to design appropriate cyber security measures for networked systems and to analyse a security incident