

The Business, Computing and ICT department at Wexham School

Computing and ICT Curriculum Map

Term	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12 Year One	Year 13 Year Two
Autumn 1	Intro to the School Network and Online awareness (Unit 1) Introduction to the school network Baseline Assessment Creation of folder structures and file naming conventions Introduction to One Drive and Teams Use of profiles, usernames and passwords E safety and online awareness Computing and health & safety issues	Data Modelling (Unit 7) Fundamentals of MS Excel: Use of ribbon, open/close documents, and create & save new documents. Creating New Worksheets: Formatting worksheets, font styles/sizes/colors, entering text. Creating a New Model: Knowledge of cells, inserting formulae (MIN, MAX, SUM, AVERAGE, COUNT, COUNTIF and IF). Creating Charts: Create column charts, line charts, and pie chart, adding chart titles and axes labels. Creating macros and hyperlinks.	Knowledge: Advanced Python (Unit 13) Strings and variables in programming. Creating Shapes using Turtle. Numbers and arithmetic in programming. Data Types – Integers, floating-point, strings, and Boolean. Selection process.	Option One (D): NCFE Interactive Media Investigate Interactive Media Production Features of an interactive product. Photoshop editing. Health and Safety in IT. Website research. <hr/> Option Two: OCR Computer Science J277 1.1 Systems architecture 1.1.1 Architecture of the CPU 1.1.2 CPU performance 1.1.3 Embedded systems 1.2 Memory and storage 1.2.1 Primary storage (Memory) 1.2.2 Secondary storage	Option One: NCFE Interactive Media Unit 3 – Development and Production of an Interactive Media Product Create plan for website. Use Dreamweaver/PowerPoint to create an Interactive Multimedia Products. <hr/> Option Two: OCR Computer Science J277 1.6 – Ethical, legal, cultural and environmental impacts of digital technology 2.2 Programming fundamentals	BTEC L3 IT Unit 1 Information Technology Systems Unit 3 Using Social Media in Business	BTEC L3 IT Unit 2 Creating Systems to Manage Information Unit 5 Data Modelling
Autumn 2	Computational Thinking (Unit 2) Core Components of Computational Thinking. Decomposition Pattern Analysis Abstraction Algorithms Flowchart symbols Flowchart sequences	Presentational Skills (Unit 8) Using slides and creating slide shows. Page layout. Creating hyperlinks. Inserting images. Presentation etiquettes. Page Layout. Research skills using the internet.	Image Editing (Unit 14) Looking image types. Editing Images using photo editing software. Understanding difference between upload and download speed. To become familiar with photoshop. To know the difference between image editing and manipulation. How to save images.	Option One: NCFE Interactive Media Unit 1- Investigate Interactive Media Production Image editing. Flash. animation. Website research. <hr/> Option Two: OCR Computer Science J277 1.2.3 Units 1.2.4 Data storage <ul style="list-style-type: none"> Numbers Characters Images Sound 2.2.1 Programming fundamentals The use of variables, constants, operators, inputs, outputs and assignments	Option One: NCFE Interactive Media Unit 3 – Development and Production of an Interactive Media Product Unit 5- Technical Award Interactive Media – External Assessment Plan for external exam-Interactive Media Product Create website in Dreamweaver. <hr/> Option Two: OCR Computer Science J277 2.2 Programming fundamentals	Unit 1 Information Technology Systems Unit 3 Using Social Media in Business	Unit 2 Creating Systems to Manage Information Unit 5 Data Modelling
Spring 1	Visual Programming in Scratch (Unit 3) Understanding Visual Programming Sequencing and Iteration Sprites, objects and characters Design development	Introduction to Python (Unit 9) Strings and variables in programming. Numbers and arithmetic in programming.	Intro to Databases (Unit 15) Understanding tables and fields. Creating multiple tables for a database. Exploring data types.	Option One: NCFE Interactive Media Unit 1- Investigate Interactive Media Production Image editing.	Option One: NCFE Interactive Media Unit 4 – Present and Promote an Interactive Media Product	Unit 1- Information Technology Systems	Unit 2 Creating Systems to Manage Information

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	<p>Use of Variables Use of arrays in Scratch Understanding of Event Handling</p>	<p>Data Types – Integers, floating-point, strings and Boolean. Selection process. While loops in programming. Searching for data in a computer program.</p>	<p>Knowing what a record is. Creating simple reports and queries. Populations entities with data.</p>	<p>Sound and video editing. Website research. Web development Presentational Skills.</p> <hr/> <p>Option Two: OCR Computer Science J277</p> <p>1.3 Network security</p> <p>2.2.1 Programming fundamentals The use of variables, constants, operators, inputs, outputs and assignments</p>	<p>Presenting of information. Evaluation of interactive media product.</p> <hr/> <p>Option Two: OCR Computer Science J277</p> <p>2.2 – Programming fundamentals</p> <p>2.3 – Producing robust programs</p>	<p>Unit 3 Using Social Media in Business</p>	<p>Unit 3 Using Social Media in Business</p>
Spring 2	<p>Data Representation (Unit 4) Binary and base 2. Binary conversion and the 8-bit system. Number bases 2, 10 and 16. Hexadecimal number system. ASCII and the 7-bit system. Colour and Images. Sound and Graphics.</p>	<p>Computer Crime and Cyber Security (Unit 10) Cyber-crime and Computer Crime. Phishing. Impact of cyber-crime. How to identify cyber crime. How to keep data safe online.</p>	<p>Word Processing and research skills (Unit 16) Fundamentals of MS Word: Use of ribbon, open/close documents, create & save new documents. Creating Documents: Use of cursor keys and mouse to navigate, change text size/colour, borders & shading, Heading styles. Creating contents page, Adding cover pages, report writing Research development using the internet</p>	<p>Option One: NCFE Interactive Media</p> <p>Unit 2- Plan and Prepare for an Interactive Media Product</p> <p>Plan for a website. Storyboard. Use of sketches/ hand drawn designs/ planning. Create a mood board. Plan a timeline schedule. Image file and compression.</p> <hr/> <p>Option Two: OCR Computer Science J277</p> <p>2.1 Algorithms 2.1.1 Computational thinking 2.1.2 Designing, creating and refining algorithms 2.1.3 Searching and sorting algorithms</p>	<p>Option One: NCFE Interactive Media</p> <p>Unit 4- Present and Promote an Interactive Media Product Promotional methods- how can the product be shown/ shared. Evaluating of promotional methods. Review of Interactive Media product.</p> <hr/> <p>Option Two: OCR Computer Science J277</p> <p>2.2 – Programming fundamentals</p> <p>2.3 – Producing robust programs</p>	<p>Unit 1- Information Technology Systems</p> <p>Unit 3 Using Social Media in Business</p>	
Summer 1	<p>BBC: Microbit (Unit 5) Understanding logic Use circuits to understand the BBC Microbit Pattern recognition Explore the physical BBC: Microbit</p>	<p>Introduction to HTML and Website Development (Unit 11) Learning HTML and CSS. Using Notepad to understand websites. Tags and Formatting. Inserting Images and creating hyperlinks. Rollover images. Creation of tables. Creating hyperlinks between web pages</p>	<p>Control Systems and Flowol (Unit 17) Sensors – heat, light, sound, pressure, smoke etc. Subroutines – as part of main routines. Automation in the home and at work. Control systems e.g. robots. Flowchart symbols – start/stop, process, decision and output. Flowchart sequences.</p>	<p>Option One: NCFE Interactive Media</p> <p>Unit 2- Plan and Prepare for an Interactive Media Product</p> <p>Colour combinations and colour wheels. Typography research. Project planning. Use of Dreamweaver/ PowerPoint. Mind maps. Peer feedback on planning.</p> <hr/> <p>Option Two: OCR Computer Science J277</p> <p>2.4.1 Boolean logic</p> <p>1.5 Systems software</p>		<p>Unit 1 Information Technology Systems</p> <p>Unit 3 Using Social Media in Business</p>	

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				2.2.1 Programming fundamentals		
Summer 2	Kodu Gaming (Unit 6) How programs work. Creating a world (using the landscape tools). Navigation and pathing. Clones and creatable. Selection and pages.	How Computers Work (Unit 12) Human computer versus physical computer. Hardware parts inside a computer. Software – system software and application software. Artificial Intelligence. Input and output devices and how they communicate with each other. Internal and external storage devices.	Flash animation (Unit 18) Frame by frame animation. Motion tweening. Text, buttons, and Actionscript. Planning and animation. Adding sound effects. Publishing an animation.	Unit 3- Development and Production of an Interactive Media Product Colour combinations and colour wheels. Typography research. Project planning. Testing to ensure usability and functionality. Writing test plans, user testing. Option Two: OCR Computer Science J277 1.3 Computer networks, connections and protocols 1.4 Computer networks, connections and protocols 1.3.1 Networks and topologies		Unit 2 Creating Systems to Manage Information Unit 3 Using Social Media in Business