

ICT – Long Term Plan 2021 - 2022

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
7	TOPIC 1: Intro the Network Knowledge: <ul style="list-style-type: none"> • BASELINE TEST • Microsoft Programs Inc. Outlook, Word, PowerPoint & TEAMS Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 2: Using Computers Safely Knowledge: <ul style="list-style-type: none"> • E-Safety • Password Protection • Online Dangers Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 3: Movie Poster (Media Project) Knowledge: <ul style="list-style-type: none"> • Editing software PhotoPea • Camera Angles • Film Poster Conventions Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 4: Graphics Project Knowledge: <ul style="list-style-type: none"> • Vectors and Bitmaps • Manipulating images • Layering images and text Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 5: Database (Murder on the Mountain) Knowledge: <ul style="list-style-type: none"> • Excel and Spreadsheets • Inputting Data Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 6: Intro to Scratch Knowledge: <ul style="list-style-type: none"> • Scratch Programming • Writing code • Testing system Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts
8	TOPIC 1: My Digital World Knowledge: <ul style="list-style-type: none"> • Malware & Phishing • Legislation Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 2: Understanding Computers Knowledge: <ul style="list-style-type: none"> • Hardware and Software • Input, Processes and Outputs Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 3: PowerPoint Project Knowledge: <ul style="list-style-type: none"> • Multimedia Presentation • Responding to a brief Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 4: Magazine Cover (Media Poster) Knowledge: <ul style="list-style-type: none"> • Codes and Conventions • Editing Software Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 5: Intro to Python Knowledge: <ul style="list-style-type: none"> • Writing code • Creating Programs Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts	TOPIC 6: Spreadsheets Knowledge: <ul style="list-style-type: none"> • Excel and Spreadsheets • Inputting Data Skills: Practical use of IT systems, functional IT skills & keyboard shortcuts
9	TOPIC 1: Power Point Project Knowledge: <ul style="list-style-type: none"> • Understanding: Specification, pre production tools, navigation diagram Skills: Evaluate Specification, complete mind map of ideas, creating a navigation map	TOPIC 2: Power Point Project (cont..) Knowledge: <ul style="list-style-type: none"> • Understanding: pre production planning tools visualisation, legal issues, Sourcing assets • Product creation and Testing table uses, How to evaluate and improve interactive products Skills: Collecting and creating resources, testing an interactive product, recording the process.	TOPIC 3: Create a Video Knowledge: <ul style="list-style-type: none"> • Understanding how to plan, script and storyboard a video production using pre-production tools • Understanding how editing video clips together with other media creates a final video edit experience. Use effective camera angles in a video production Skills: learning how to write a script, create a storyboard, film an advert with camera equipment, export video from equipment, import video to editing software, import and edit text, image and audio assets in video editor, export final cut to appropriate file type.	TOPIC 4: HTML & Website Development Knowledge: <ul style="list-style-type: none"> • Understand what HTML is and how it is used to create webpages • Understand what CSS style sheets are and how style sheets are used to control the look and house style of a webpage Skills: At the end of this Unit all pupils should be able to: <ul style="list-style-type: none"> • Write HTML code to create a simple web page and display it in a browser • Write CSS to define the styles used in a web page • Create a simple navigation system using HTML • Use a design to create a template for a web page using HTML • Create their own multi-page website • Insert text, images and links on their web page 	TOPIC 5: HTML & Website Programming (cont...) Knowledge: <ul style="list-style-type: none"> • Understand what HTML is and how it is used to create webpages • Understand what CSS style sheets are and how style sheets are used to control the look and house style of a webpage Skills: Create their own multi-page website <ul style="list-style-type: none"> • Insert text, images and links on their web page 	TOPIC 6: Python Programming Knowledge: <ul style="list-style-type: none"> • Understand how to use variables in a computer program • Understand how to use IF and other logic statements in a computer programme Skills: Learners will create chat bots using variable. Learners will create a quiz using logic statements.
10 IT	R082 – Graphics Design Knowledge: <ul style="list-style-type: none"> • Purpose of digital graphics • properties of digital graphics 	R082 – Graphics Design Knowledge: <ul style="list-style-type: none"> • Purpose of digital graphics • properties of digital graphics 	R081 - Pre-production Skills Knowledge: <ul style="list-style-type: none"> • Purpose and content of pre-production 	R081 - Pre-production Skills Knowledge: <ul style="list-style-type: none"> • Purpose and content of pre-production 	R091 – Designing a Games Concept Knowledge: <ul style="list-style-type: none"> • Understand digital game types and platforms 	R091 – Designing a Games Concept Knowledge: <ul style="list-style-type: none"> • Understand digital game types and platforms

	<ul style="list-style-type: none"> design and layout of digital graphics Client requirements and target audience Work plan Producing ideas Legal restrictions Obtain and edit assets Create graphics Review and evaluate graphics <p>Skills: Research, planning, creation and reviewing digital graphics using different software</p>	<ul style="list-style-type: none"> design and layout of digital graphics Client requirements and target audience Work plan Producing ideas Legal restrictions Obtain and edit assets Create graphics Review and evaluate graphics <p>Skills: Research, planning, creation and reviewing digital graphics using different software</p>	<ul style="list-style-type: none"> Plan pre-production Produce pre-production documents Review pre-production documents <p>Skills: Research, planning, creation and reviewing pre-production documents using different software</p>	<ul style="list-style-type: none"> Plan pre-production Produce pre-production documents Review pre-production documents <p>Skills: Research, planning, creation and reviewing pre-production documents using different software</p>	<ul style="list-style-type: none"> Plan a digital games concept Design a digital games proposal Review a digital game proposal <p>Skills: Research game types and platforms, use planning tools to plan the concept, design and review the game proposal</p>	<ul style="list-style-type: none"> Plan a digital games concept Design a digital games proposal Review a digital game proposal <p>Skills: Research game types and platforms, use planning tools to plan the concept, design and review the game proposal</p>
10 CS	<p>TOPIC 1: Data Representation</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Conversions from binary to denary to Hex Binary additions and shifts ASCII and Unicode Check digits Characters Images Sound Compression 	<p>TOPIC 2: System Architecture</p> <p>Knowledge:</p> <ul style="list-style-type: none"> The central processing unit Components of the CPU Fetch-Decode-Execute Cycle 1 and 2 Performance of the CPU Embedded systems 	<p>TOPIC 3: Secondary Storage</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Optical and magnetic devices Solid-state memory Capacity, speed and cost Portability, durability and reliability <p>TOPIC 4: Memory</p> <p>Knowledge:</p> <ul style="list-style-type: none"> RAM and ROM Virtual memory 	<p>TOPIC 5: Programming Techniques</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Variable and constants Arithmetic operators Comparison operators Boolean operators Selection Iteration Data Types String manipulation Arrays File handling operations Records SQL Sub-programs 1 & 2 	<p>TOPIC 6: Wired and Wireless Networks</p> <p>Knowledge:</p> <ul style="list-style-type: none"> LANs and WANs Client-Server & Peer-to-Peer Transmission media Connecting computers to a LAN The Internet <p>TOPIC 7: Producing robust Programs</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Defensive design Testing and maintenance <p>TOPIC 8: Computational Logic</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Computational logic 1 Computational logic 2 	<p>TOPIC 9: Network Topologies, Protocols and Layers</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Network topologies Protocols 1- browsers and email clients Protocols 2 – Network layers Protocols 3 – Benefits of layers Packets and packet switching <p>TOPIC 10: Translators and facilities of languages</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Programming languages Translators Integrated development environment
11 NCFE	<p>UNIT 2:</p> <p>Knowledge:</p> <ul style="list-style-type: none"> discuss the content and how the designer/developer uses the proposals to create a product. <p>Skills: Group task: learners to discuss the points below in groups and make notes: • product • content requirements • target audience • technical requirements • house style • client needs • limitations/constraints • resources • time frame</p>	<p>UNIT 3:</p> <p>Knowledge:</p> <ul style="list-style-type: none"> The importance of testing products and recording the process the learner must consider: • the effectiveness of the samples/prototypes • feedback from the target audience/end-user • strengths and weaknesses • ways to improve their working processes and their interactive media samples/prototypes. <p>Skills: screen capture and prototypes, exporting options to different formats appropriate named file directory and file names.</p>	<p>UNIT 4 :</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Learners will identify methods of self-promotion (eg exhibitions, gallery, web presence and social media). They will identify the most effective method for their own way of working. Learners will work in groups to plan a presentation based on a Teacher provided scenario, or choice of scenarios. <p>Skills: earners will research at least three examples of how to present a product in the interactive media</p>	<p>UNIT 4, UNIT 2, UNIT 3:</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Learners work on internal assessment 4 via facilitated sessions (no feedback from the Assessor should be given within the summative assessment period). Learners work on internal assessment 4 via facilitated sessions (no feedback from the Assessor should be given within the summative assessment period). <p>Skills: Learners will peer review the presentation plans in small groups. They will record the feedback and individually review the following: •</p>	<p>TOPIC 5: External Exam</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Revision/preparation for external assessment. <p>Skills: Learners will peer review the presentation plans in small groups. They will record the feedback and individually review the following: • selection of format and medium • use of hardware/software • strengths and weaknesses • areas for improvement.</p>	<p>TOPIC 6: External Exam</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Learners work on internal assessment 4 via facilitated sessions (no feedback from the Assessor should be given within the summative assessment period). Revision/preparation for external assessment. <p>Skills: Learners will peer review the presentation plans in small groups. They will record the feedback and individually review the following: • selection of format and medium • use of hardware/software • strengths and weaknesses • areas for improvement.</p>

			industry (eg digital portfolio/CV, online presence, promotional video, viral marketing, interactive showcase etc).	selection of format and medium • use of hardware/software • strengths and weaknesses • areas for improvement.		
11 IT	<p>R082 – Graphics Design</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Purpose of digital graphics • properties of digital graphics • design and layout of digital graphics • Client requirements and target audience • Work plan • Producing ideas • Legal restrictions • Obtain and edit assets • Create graphics • Review and evaluate graphics <p>Skills: Research, planning, creation and reviewing using different software</p>	<p>R082 – Graphics Design</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Purpose of digital graphics • properties of digital graphics • design and layout of digital graphics • Client requirements and target audience • Work plan • Producing ideas • Legal restrictions • Obtain and edit assets • Create graphics • Review and evaluate graphics <p>Skills: Research, planning, creation and reviewing using different software</p>	<p>Topic 3 – R081 Revision if resitting</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Purpose and content of pre-production • Plan pre-production • Produce pre-production documents • Review pre-production documents <p>Skills: Research, planning, creation and reviewing pre-production documents using different software</p>	<p>Topic 3 – R081 Revision if resitting</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Purpose and content of pre-production • Plan pre-production • Produce pre-production documents • Review pre-production documents <p>Skills: Research, planning, creation and reviewing pre-production documents using different software</p>		
11 CS	<p>TOPIC 1: Data representation</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • ASCII and Unicode • Check digits • Characters • Images • Sound • Compression 	<p>TOPIC 2: Ethical, legal, cultural and environmental concerns</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Environmental and legal issues • Cultural issues 1 & 2 • Environmental issues • Privacy issues • Legislation 1 & 2 • Proprietary and open-source software 	<p>TOPIC 3: Programming Techniques</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Variable and constants • Arithmetic operators • Comparison operators • Boolean operators • Selection • Iteration • Data Types • String manipulation • Arrays • File handling operations • Records • SQL • Sub-programs 1 & 2 <p>TOPIC 4: Producing robust Programs</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Defensive design • Testing and maintenance 	<p>TOPIC 5: Algorithms</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Computational thinking • Algorithms • Pseudocode • Flow diagrams • Search algorithm - linear • Search algorithm – binary • Comparing linear and binary • Sort algorithm – bubble • Sort algorithm – insertion • Sort algorithm – merge • Interpreting, correcting and completing algorithms • Using trace tables <p>TOPIC 6: Computational Logic</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Computational logic 1 • Computational logic 2 	<p>TOPIC 7: Translators and facilities of languages</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Programming languages • Translators • Integrated development environment <p>REVISION</p>	REVISION
12 IT	<p>Unit 1 – Fundamentals of IT (examination)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand computer hardware • Understand computer software • Understand business IT systems • Understand employability and communication skills used in an IT environment 	<p>Unit 1 – Fundamentals of IT (examination)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand computer hardware • Understand computer software • Understand business IT systems • Understand employability and communication skills used in an IT environment 	<p>Unit 2 – Global Information (examination)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand where information is held globally and how it is transmitted • Understand the styles, classification and the management of global information 	<p>Unit 2 – Global Information (examination)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand where information is held globally and how it is transmitted • Understand the styles, classification and the management of global information 	<p>Unit 2 – Global Information (examination)</p> <p>REVISION</p> <p>Unit 17 – Internet of Everything (coursework)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand what is mean by the Internet of Everything (IoE) • Repurpose technologies to extend the scope of the IoE 	<p>Unit 17 – Internet of Everything (coursework)</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Understand what is mean by the Internet of Everything (IoE) • Repurpose technologies to extend the scope of the IoE • Present concept ideas for repurposed developments

	<ul style="list-style-type: none"> Understand ethical and operational issues and threats to computer systems 	<ul style="list-style-type: none"> Understand ethical and operational issues and threats to computer systems 	<ul style="list-style-type: none"> Understand the use of global information and the benefits to individuals and organisations Understand the legal and regulatory framework governing the storage and use of global information Understand the process flow of information Understand the principles of information security <p>Unit 17 – Internet of Everything (coursework) Knowledge:</p> <ul style="list-style-type: none"> Understand what is mean by the Internet of Everything (IoE) Repurpose technologies to extend the scope of the IoE Present concept ideas for repurposed developments 	<ul style="list-style-type: none"> Understand the use of global information and the benefits to individuals and organisations Understand the legal and regulatory framework governing the storage and use of global information Understand the process flow of information Understand the principles of information security <p>Unit 17 – Internet of Everything (coursework) Knowledge:</p> <ul style="list-style-type: none"> Understand what is mean by the Internet of Everything (IoE) Repurpose technologies to extend the scope of the IoE Present concept ideas for repurposed developments 	<ul style="list-style-type: none"> Present concept ideas for repurposed developments 	
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