IT (Information technology) Curriculum Overview

	Autumn Term		Spring Term		Summer Term	
Year 7	**7a Digital Literacy** Learning how to log on, store work effectively, and use Office 365, Teams, and Email. **Links:** *7C passwords, R050 TA5 software and communicating*	**7b Computer Systems & Networking** Understanding hardware components like input/output devices, CPU, memory, and networking basics. ***Links:*** *R050 TA2 hardware for apps, R050 TA5 communication channels*	**7c Online Safety** Learning about e-safety, laws, ethics, hacking, DDoS, malware, and security measures. **Links:** *7a passwords, R050 TA4 laws & cyber security, 8e fake news*	**7d Graphics** Understanding vector and bitmap graphics, using fonts, colours, and images effectively, and learning photo editing tools. **Links:** *9a APPLAB skills, R050 TA2 effective HCI, 8d bitmaps*	**7e Spreadsheet Modelling** Using spreadsheet features like cell referencing, formatting, formulas, data collection, functions, and charts. **Links:** *R060 TA1 & TA2 planning and creating spreadsheet solution*	**7f Block based Programming** Introduction to programming concepts like sequencing instructions, iteration, inputs/variables, selection, concatenation, cumulative sum, and functions using Edublocks. **Links:** *8c text based programming, 8f algorithms*
Year 8	**8a Augmented Reality** Introduction to AR and Blippar, including AR animations, interactions, and project planning with mindmaps and Lucidchart. Students build and test AR prototypes. **Links:** *R070 TA1,2,3 design and create prototype*	**8b Business & Finance** Covers basic business concepts, entrepreneurship, market research, business planning, the marketing mix (4Ps), financial basics, stakeholder roles, and business ethics. **Links:** *TA2 client/market requirements*	**8c Text Based Programming** Introduction to Python programming basics: print, variables, data types, selection, iteration, lists, file handling, and functions. **Links:** *7f block based programming, 8f algorithms*	**8d Binary Data** Converting between binary and denary numbers, performing binary operations, representing images/sound in binary, and understanding Boolean logic circuits. **Links:** *7d bitmaps*	**8e Experience AI** Introduction to AI, how computers learn from data, addressing bias in AI, decision trees, solving problems with machine learning models, and exploring AI careers. **Links:** *7c fake news*	**8f Computational Thinking** Introduction to computational thinking, including abstraction, decomposition, algorithms, flowcharts, searching algorithms, and sorting algorithms **Links:** *7f + 8c algorithms*
Year 9	**9a APPLAB skills** Students learn app development fundamentals, including ideation, programming, UI design, database integration, testing, debugging, and app deployment, through practical activities and projects, leading to the creation of their own functional applications. **Links:** *7d Graphics, R050 TA2 effective HCI*	R070 TA1 Augmented Reality Students learn about the purpose and uses of Augmented Reality (AR) across various sectors such as architecture, education, entertainment, retail, and lifestyle, including applications like training, virtual tours, visualisation of designs, interiors, concepts, and marketing. **Links:** *8a Augmented Reality*	**9b Blippar Skills** The fundamentals and applications of BLPPAR AR technology. Creating AR content like 3D models and animations. Integrating markers and triggers for interactive experiences. Designing user-friendly interfaces for AR applications. Deploying and distributing AR applications across platforms. **Links:** *R070 TA3creating AR prototype*	R070 TA3 Creating an Augmented Reality (AR) model prototype Students engage in creating an AR model prototype to demonstrate functionality and aesthetics based on produced design documentation, focusing on triggers, layers, user interaction, and information output formats. **Links:** *8a Augmented Reality*	R070 TA2 Designing an AR Model Prototype Learners explore planning and design considerations for AR products, including purpose, user requirements, target audience, content, assets, triggers, and user interactions, as well as the use of design tools such as flowcharts, mind maps, and storyboards. **Links:** *8a Mindmap/Visualisation diagram, R050 TA1: Design tools*	R070 TA2 Designing an AR Model Prototype - **application for assignment** Use the knowledge they have gained from this topic prior to apply to their exam board set assignment under NEA conditions. Recall will be used to support pupil progress throughout. **Links:** *8a Mindmap/Visualisation diagram, R050 TA1: Design tools* **JUN- Assignment Brief Released**
	R050 TA2: Human Computer Interface (HCI) in everyday life Students explore the purpose, importance, and use of HCI in diverse applications like banking and entertainment, delving into hardware and software considerations, user interaction methods, and their advantages/ disadvantages. **Links:** *7b hardware for apps, 7d fonts and colours*	R050 TA1: Design tools Students study various design tools such as flow charts, mind maps, and wireframes, understanding their components, software usage, and advantages/disadvantages, culminating in creating original documents and assessing their suitability for specific contexts. **Links:** 8a mind map, visualisation Diagram, *R070 TA2 Designing an AR, R060 TA1: designing spreadsheet* DEC – Assessment 1		R050 TA4: Cyber-security and legislation Students learn about cyber threats, their impacts on individuals and organisations, prevention measures such as physical and logical security, and relevant legislation like the Computer Misuse Act and Data Protection Act. **Links:** *7c online safety and cyber security* MAR – Assessment 2		
Year 10	R070 TA2 Designing an AR Model Prototype - **application for assignment** Use the knowledge they have gained from this topic prior to apply to their exam board set assignment under NEA conditions. Recall will be used to support pupil progress throughout. **Links:** *8a Mindmap, R050 TA1: Design tools*	R070 TA3 Creating an Augmented Reality (AR) model prototype **application for assignment** Use the knowledge they have gained from this topic prior to apply to their exam board set assignment under NEA conditions. Recall will be used to support pupil progress throughout. **Links:** *8a Augmented Reality*		R070 TA4: Testing and reviewing **application for assignment** Learners delve into the testing process of AR model prototypes, including technical and user testing using a test plan, recording test results, and carrying out remedial actions, as well as reviewing the effectiveness of processes, tools, and techniques used in creating AR model prototypes. **Links:** *R050 TA3: Data and testing, R060 TA3: Testing the spreadsheet solution*	R060 TA2: Creating the spreadsheet solution Students handle and manipulate data using data validation, cell formatting, and sorting techniques, applying security measures and modelling tools to create a fit-for-purpose spreadsheet solution. Learners create outputs such as charts, graphs, and formatted documents, adjusting page layout properties and ensuring visibility of information in rows and columns. They design a user interface with buttons, macros, hyperlinks, and forms, enabling users to navigate effectively and configuring the spreadsheet to display the correct information at startup. **Links:** *7e Spreadsheet Modelling* **APR- Submission of R070**	R060 TA1: Planning and designing the spreadsheet solution **application for assignment** Students produce design documents incorporating functionality, navigation systems, and outputs, selecting and employing appropriate software tools and techniques to plan the spreadsheet solution effectively. Learners design functionalities for the solution including calculations, sorting, and filtering, as well as types of outputs such as charts, lists, and reports, adhering to HCI principles for navigation, accessibility, and user perception. **Links:** *7e Spreadsheet Modelling* **JUN- Assignment Brief Released** JUN – Assessment 3
	R050 TA5: Digital communications Learners explore various types of digital communications, software tools, digital devices, distribution channels, and audience demographics, assessing their suitability, advantages, and disadvantages in different contexts. **Links:** *7a software and communicating, 7b communication channels* OCT – Assessment 1	R050 TA6: Internet of Everything (IoE) Students examine the concept of IoE, its pillars, digital interactivity, application areas in everyday life, advantages/disadvantages, and security issues, being aware of emerging technologies and their implications. **Links:** 7b internet connecting things, 7c ethics of IoE JAN – Assessment 2				
Year 11	R060 TA2: Creating the spreadsheet solution- **application for assignment** Use the knowledge they have gained from this topic prior to apply to their exam board set assignment under NEA conditions. Recall will be used to support pupil progress throughout. **Links:** *7e Spreadsheet Modelling*	R060 TA3: Testing the spreadsheet solution **application for assignment** Students conduct technical and usability testing during and after development, following a test plan documentation and selecting appropriate test data to ensure the functionality and usability of the solution. **Links:** *R050 TA3: Data and testing*	R060 TA4: Evaluating the spreadsheet solution **application for assignment** Learners evaluate the success of the solution based on client requirements, adherence to HCI design principles and conventions, and whether the planned spreadsheet solution effectively meets the client's needs. **Links:** *R070 TA4: Testing and reviewing*	Revisit all R050 TAs with a focus on retrieval, spaced and interleaved exam question practice. TA1: Design tools TA2: Human Computer Interface (HCI) TA3: Data and testing FEB - Mock 2	Revisit all R050 TAs with a focus on retrieval, spaced and interleaved exam question practice TA4: Cyber-security and legislation TA5: Digital communications TA6: Internet of Everything (IoE) **APR- Submission of R060**	
		R050 TA3: Data and testing Students study the fundamentals of information and data, including data types and their use in different contexts, along with validation and verification techniques, data collection methods, storage options, and the application of testing across various scenarios. **Links:** *R060 TA3: Testing the spreadsheet solution* NOV- Mock 1				

R050 - IT in the digital world (EXAM)
R060 - Data manipulation using spreadsheets
R070 - Using Augmented Reality to present information