Co-op Academy Walkden Curriculum Overview 2022-23

Computing, Creative iMedia/ ICT, Computer Science

Key Stage 3/4

Year Group		AU1	AU2	SP1	SP2	SU1	SU2
7	**Core Theme**	**Using Technology Safely**	**Computer Systems**	**Computational Thinking Abstraction and Decomposition**	**Using Applications to solve problems**	**Using Applications to collect and analyse data**	**Computational Thinking Problem Solving**
	Unit of Work	Understanding and demonstrating **E-safety** practices when online Understanding the origins and how **Animation** is created	Identifying the differences and features of **Hardware & Software** Inputs, Outputs & Storage	Understanding the three basic constructs of programming (sequence, selection & iteration) using **Scratch Programming**	Understanding how **Spreadsheet modelling** is used in the modern world Spreadsheet modelling skillbuilding	Investigating and understanding the **social, ethical and legal issues** associated with modern day Computing	Introducing and resolving practical programming problems using **Micro:bits**
8	**Core Theme**	**Using Applications Design, usability and trustworthiness**	**Using Applications Create and repurpose digital artefacts**	**Computational Thinking Data Structures**	**Using Applications Meeting needs of target audiences**	**Digital Representation**	**Using Applications App Design**
	Unit of Work	Understanding and demonstrating **E-safety** practices when using social media Understanding the origin and current **Trends in Computing**	Identifying and applying principles of **Logo Design**	Introduction to **Python programming** - Data Types and Iteration (Count controlled vs conditional)	Understanding the principles of **Web Design (HTML)** Application of knowledge through completion of the Creative project	Exploring data representation and how **Text, Sound & Images** are handled by computing systems	Developing skills in digital product design using ICT **App Design**
9	**Core Theme**	**Using Applications Planning and designing Digital Products**	**Programming Python**	**Using Applications Web Design**	**Computer Systems**	**Using Applications**	**Using Applications Databases**
	Unit of Work	Understanding and demonstrating **E-safety** practices - peer pressure **Fireworks / Photoshop**	Developing programming skills using **List, tables and arrays**	Developing web design skills using commercial software packages - **Serif WebPlus** (Skill Building)	Understanding how computer **Networks** and components are connected	Developing digital products using ICT - **Game Design / Animation** (Skill Building)	Understanding the theory of **Data Science**

		Exploring graphic design (skill building)					

Creative iMedia (ICT) - OCR Cambridge Nationals

Year Group		AU1	AU2	SP1	SP2	SU1	SU2
10	**Core Theme**	**Unit R093: Creative iMedia in the Media Industry (Exam)**			**Unit R094: Visual Identity and Digital Graphics (NEA)**		
	Unit of Work	Topic Area 1: **The Media Industry** Media industry sectors and products Job roles in the media industry	Topic Area 2: **Factors influencing product design** How are style, content and layout linked to the purpose? Client requirements and how they are defined Audience demographics and segmentation Research methods, sources and types of data Media codes used to convey meaning, create impact and/or engage audiences	Topic Areas 3 & 4: **Pre-production planning & Distribution considerations** Work planning Documents used to support ideas generation Documents used to plan and design media products The legal issues that affect media Distribution platforms and media to reach audiences Properties and formats of media files	Topic Area 1: **Develop digital identity** Purpose, elements and design of visual identity	Topic Area 2: **Plan digital graphics for products** Graphic design and conventions Properties of digital graphics and use of assets Techniques to plan visual identity and digital graphics	Topic Area 3: **Create visual identity and digital graphics** Tools and techniques of imaging editing software used to create digital graphics Technical skills to source, create and prepare assets for use within digital graphics Techniques to save and export visual identity and digital graphics
11	**Core Theme**	**Optional Unit (NEA): R097 - Interactive Digital Media / R099 - Digital Games**			**Revision & Exam Preparation**		
	Unit of Work	Topic Area 1: **Plan** interactive digital media / **Plan** digital games	Topic Area 2: **Create** interactive digital media / **Create** digital games	Topic Area 3: **Review** interactive digital media / **Review** digital games	Creative iMedia in the Media Industry		

Computer Science - AQA GCSE

Year Group		AU1	AU2	SP1	SP2	SU1	SU2
10	**Core Theme**	**Systems Architecture**	**Algorithms**	**Programming Techniques**	**Memory & Storage**	**Producing Robust programs**	**Wired & Wireless & Network Topologies**
	Unit of Work	Principles of the Von Neumann architecture FDE cycle Hardware (ROM/RAM) Embedded systems	Exploring algorithms using abstraction and decomposition. Representation using flow diagrams and pseudocode	Arithmetic operations Variable declaration Constant declaration Application of efficiency through exploring and programming of searching and sorting algorithms	Primary, secondary & tertiary memory Types of storage(volatile, non-volatile), (solid state, magnetic, optical) Cloud storage	Use, understand and know how the following statement types can be combined in programs to create efficient code:- Assignment Iteration (Definite and indefinite) Selection Subroutine (procedure/function).	Types of computer network Wired vs Wireless Network topologies - Bus, Star, Mesh, Ring Network protocols
11	**Core Theme**	**Computing Logic & Data Representation**	**Systems security & software**	**Ethical Issues**	**Revision**		
	Unit of Work	Number bases binary & hex Character coding - ASCII & Unicode Text, sound & images Data compression	Methods of network security - authentication, encryption, firewalls, MAC addressing Cyber Security threats, processes and procedures	Current ethical, legal and environmental impacts and risks of digital technology on society. Data privacy issues and protections.	Preparation for final GCSE exam papers		