



THE BROMFORDS SCHOOL
ACHIEVE ENRICH PREPARE

The Bromfords School Computing Department. Intent of Curriculum



The Bromfords School

ICT & Computing Department.

The intent of ICT & Computing at Bromfords is to equip pupils to use computational thinking and creativity to understand the world and how computing is changing its possibilities; to explore the use of information and technology in society and organisations and the impact this is having on individuals, communities, workplaces and the wider world; to develop confident, digitally literate students who understand how to navigate an increasingly technology driven world.

Achieve:

As pupils progress they will develop their knowledge of computational thinking which will enable them to solve problems, create increasingly complex programs and develop their understanding of how computing works and how it is changing and impacting the world. They will also develop their digital literacy and key creative and transferable IT skills.

Enrich:

The application of knowledge and understanding to current global developments and needs in computing, creative design and business ICT use within the classroom and through experiences of real-life application. Students will be digitally literate with a range of transferable skills that they can apply to life in school and beyond.

Prepare:

Learners will be have a responsible attitude towards their interactions through technology and be equipped to adopt a life-long learning approach. Our students will be digitally literate armed with a range of skills and knowledge that are transferable across the curriculum and into employment. In Years 7 and 8 students will develop a holistic knowledge of computing and ICT in order to allow them to specialise in either area moving forward into their Key Stage 4 and 5 studies.

Department: ICT & Computing	Curriculum Map What does ICT & Computing at Bromfords look like?					
	Entry KS2	Year 7	Year 8	Year 9	Year 10	Year 11
<p><u>Knowledge:</u></p> <p>Upon accessing the Computer Science curriculum from our feeder primary schools, it has been ascertained that their KS2 curriculum covered a range of topics that may include – Programming basics using scratch, E-Safety, Digital literacy and use of digital communication.</p> <p>- Be able to apply computational thinking when solving problems by being able to break down and solve a problem.</p>	<p><u>Knowledge:</u></p> <p>-Data representation</p> <p>-How to use digital technology appropriately.</p> <p>- The basics of a computer system.</p> <p>- Recognise the importance of humans and technology communicate</p> <p><u>Skills:</u></p> <p>- Recognised online dangers</p> <p>- Identify the key component</p>	<p><u>Knowledge:</u></p> <p>-How to use smart search online when looking for genuine and reliable information</p> <p>- Social engineering and how data impacts everyday life.</p> <p>-How to use digital technology appropriately.</p> <p><u>Skills:</u></p> <p>-Smart searching</p> <p>- Convert between</p>	<p><u>Knowledge: Computer Science</u></p> <p>-Smart searching</p> <p>- Convert between different number systems.</p> <p>- Create simple programs.</p> <p>- E-safety</p> <p>-The Internet legislation</p> <p>-Hardware and software</p> <p>-Databases</p> <p><u>Skills:</u></p> <p>-Use Computational thinking to develop advanced programs.</p> <p>- Able to analyse data with the use of data visualisation.</p>	<p><u>Knowledge: Computer Science</u></p> <p>-The structure of a Computer Processing Unit</p> <p>- How data is represented by computers.</p> <p>- Different types of networks that exist and the hardware required to set them up.</p> <p>-Boolean logic</p> <p>-Networking</p> <p><u>Skills:</u></p> <p>-Explain how various components of CPU function.</p> <p>- Design a network with the correct hardware</p> <p>-Python programming</p> <p><u>Knowledge OCR Creative iMedia:</u></p> <ul style="list-style-type: none"> ✚ Research on a multimedia sector ✚ Plan the production of a website/Application/Digital Graphics ✚ Website/Application/Digital Graphics production ✚ Evaluation of completed product <p><u>Skills:</u></p> <ul style="list-style-type: none"> ✚ Research skills 	<p><u>Knowledge:</u></p> <p>-How to design and implement complex algorithms</p> <p>- Compare the use of search and sorting algorithms.</p> <p>- Boolean logic and truth tables.</p> <p>-Network and security</p> <p>-Exams revision</p> <p><u>Skills:</u></p> <p>-Programming skills enhanced to be able to create complex programs.</p> <p><u>Knowledge OCR Creative iMedia:</u></p> <ul style="list-style-type: none"> ✚ Research on a multimedia sector ✚ Plan the production of a website/Application/Digital Graphics ✚ Website/Application/Digital Graphics production ✚ Evaluation of completed product 	<p><u>Knowledge:</u></p> <p>The post 16 qualification is an OCR qualification . It is designed to give learners a range of specialist knowledge and transferable skills in the context of applied IT, providing them with the opportunity to enter an apprenticeship, move directly into employment , or progress to a related Higher Education</p>

<p>- Basic understanding of data representation such as binary numbers.</p>	<p>s that exist inside a computer and computational thinking.</p>	<p>different number systems. - Create simple programs.</p>	<p><u>Knowledge</u> <u>Media:</u></p> <ul style="list-style-type: none"> + Types of Multimedia products + SOAP (Sense of audience and purpose) + Preproduction Documentations + Adherence to legislation <p><u>Skills:</u></p> <ul style="list-style-type: none"> + Illustrator skills + Web development + Media editing 	<ul style="list-style-type: none"> + Use of planning documentation + Dreamweaver/illustrator/Photoshop skills + Review skills 	<p><u>Revision</u></p> <p><u>Skills:</u></p> <ul style="list-style-type: none"> + Research skills + Use of planning documentation + Dreamweaver/illustrator/Photoshop skills + Review skills + Revision Skills 	<p>(HE) course.</p> <p>As a school, we are on the Application Developer flight path. This comprises of:</p> <p>-OCR Level 3 Cambridge Technical Introductory Diploma in IT (with specialist pathways) (360 GLH)</p> <p>-OCR Level 3 Cambridge Technical Diploma in IT (with specialist pathways) (720 GLH)</p>
<p>Enrichment, Careers, Real-world</p>	<p>- Coding club with Code.org - Anti-Bullying VR</p>	<p>-Coding club with Small Basics and Python - Computer Science for</p>	<p>-Royal Institution (Ri) Online Computer Science Masterclasses</p>	<p>- Visit to "Bletchley Park" to see how secret messages from the enemy in WW2 were broken down - BIMA</p>	<p>- Little Man Computer (Peter Higginson)</p>	<p>-Real world employment to conduct feasibility study.</p>

Experience.		Fun (STEM)	- Visit to "The National Museum of Computing" to inspire future generations of computer scientists.			
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COMPUTER SCIENCE STUDENTS



IMEDIA STUDENTS

Year 7 – Intent:

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Scheme of work: Digital Literacy</p> <p>Learning Intent: Understanding the broad spectrum of online safety our digital profile, digital footprint and e-communications.</p> <ul style="list-style-type: none"> • School System • E-Safety (Online safety and Online reputation) • Digital communication • Applications 	<p>Scheme of work: Hardware</p> <p>Learning Intent: Understand and investigate the hardware component parts of a computer. Exploring what makes a computer:</p> <ul style="list-style-type: none"> • Input • Output • Storage • Processing • CPU 	<p>Scheme of work: Programming Concept- Computational Thinking</p> <p>Learning Intent: Understand the four cornerstones of computational programming.</p> <ul style="list-style-type: none"> • Decomposition • Abstraction • Pattern recognition • Algorithms • Flow charts 	<p>Scheme of work: Data Representation/ Graphics</p> <p>Learning Intent: Understand how Data is used in computing</p> <ul style="list-style-type: none"> • Binary • Types of Graphics • Use of graphics/editing • Pre-production planning • Creating Digital Graphics • Review of product. 	<p>Scheme of work: Spreadsheets</p> <p>Learning Intent: Introduction to the use of spreadsheets (analytical modelling). Making use of:</p> <ul style="list-style-type: none"> • Formatting calculations • functions • charts and graphics. 	<p>Scheme of work: Introduction to programming (code.org)</p> <p>Learning Intent: Students to gain an understanding of the basic programming constructs of:</p> <ul style="list-style-type: none"> • Sequence • Loops • Conditionals • functions variables.
Measuring impact through:					
<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment. 	<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment 	<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment 	<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment 	<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment 	<ul style="list-style-type: none"> • Class tasks • Homework • End of Unit Assessment

Year 8 – Intent:

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Scheme of work: Software</p> <p>Learning Intent: Students are taught the separate software layers within modern day computer systems.</p> <ul style="list-style-type: none"> E-Safety (Big Data and Right to privacy) Systems software Operating systems Drivers Utility software Application software/Interface Development software. 	<p>Scheme of work: Data Representation</p> <p>Learning Intent: Introduce Data Representation to students as the form in which data is stored, processed, and transmitted.</p> <ul style="list-style-type: none"> Units of data size (MB, GB, TB). Conduct basic binary arithmetic: Binary to Denary Denary to Binary (place value tables and divide by 2 method) Binary addition <p>Students will also gain an insight to ASCII Character code and Binary images.</p>	<p>Scheme of work: Into to Python (Small Basics)</p> <p>Learning Intent: Small Basics acts as a transitional tool from the block-based coding in year 7 to text based at end of year 8.</p> <ul style="list-style-type: none"> Introduction to Small Basic Statements, properties and Operations Variables Conditions and loops Exploring shapes Sound, program and text object 	<p>Scheme of work: Web Development</p> <p>Learning Intent: Introduce students to website development by setting up a small website direct restructure with ability to:</p> <ul style="list-style-type: none"> Designing and developing a Master page Add content to pages Modify page properties Add graphical elements to pages and menus. 	<p>Scheme of work: Databases</p> <p>Learning Intent: Introduce Database to students as a file management concept for businesses:</p> <ul style="list-style-type: none"> Tables Primary keys Forms Queries Reports 	<p>Scheme of work: Introduction to Python.</p> <p>Learning Intent: Introduction to 4GL Python language, considering:</p> <ul style="list-style-type: none"> Input, output, and variables Data types and mathematical operations. Selection <p>General programming construct (writing programs)</p>
<p>Measuring Impact through:</p>					
<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment. 	<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment 	<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment 	<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment 	<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment 	<ul style="list-style-type: none"> Class tasks Homework End of Unit Assessment

Year 9 – Intent: COMPUTER SCIENCE

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Scheme of work: Systems architecture Links to KS4: GCSE Computer Science Section 1.1</p> <p>Learning Intent: To develop understanding of systems architecture, including CPU's and embedded systems:</p> <ul style="list-style-type: none"> E-Safety (Fake news and illegal contents) Right to access <p>1.1.1 Architecture of the CPU 1.1.2 CPU Performance 1.1.3 Embedded systems</p>	<p>Scheme of work: Networks and Security Links to KS4: GCSE Computer Science Section 1.3 & 1.4</p> <p>Learning Intent: To develop understanding of network design and system security:</p> <p>1.3.1 Networks and topologies 1.3.2 Wired and wireless networks, protocols and layers 1.4.1 Threats to computer systems and networks 1.4.2 Identifying and preventing vulnerabilities</p>	<p>Scheme of work: Memory and storage Links to KS4: GCSE Computer Science Section 1.2</p> <p>Learning Intent: – To develop knowledge in the uses of data, and develop understanding in how we use storage:</p> <p>1.2.1 Primary storage (Memory) 1.2.2 Secondary storage 1.2.3 Units 1.2.4 Data storage 1.2.5 Compression</p>	<p>Scheme of work: Python Programming Links to KS4: GCSE Computer Science Section 2.1, 2.2 & 2.5</p> <p>Learning Intent: INTENT – To develop experience, and understanding, in using the programming language Python:</p> <ul style="list-style-type: none"> Shell Escape sequence Print Arithmetic operators and parentheses Data types and variables Relational operators Conditional statements Loops While loops <p>2.2.1 Programming fundamentals 2.2.2 Data types 2.2.3 Additional programming techniques 2.5.1 Languages</p>	<p>Scheme of work: Databases Links to KS4: GCSE Computer Science Section 2.1 & 2.4</p> <p>Learning Intent: To use a specialist software package to apply practical application of Boolean logic and search/ sort algorithms:</p> <ul style="list-style-type: none"> Structure Uses Data types Validation Forms Queries Reports <p>2.1.1 Computational thinking 2.1.2 Designing, creating and refining algorithms 2.1.3 Searching and sorting algorithms 2.4.1 Boolean logic</p>	<p>Scheme of work: Python practice Links to KS4: GCSE Computer Science Section 2.1, 2.5 & NEA</p> <p>Learning Intent: To develop python programming skills with focus on algorithm design:</p> <ul style="list-style-type: none"> Lists Dictionaries GUI While Loops Sub routines <p>2.1.1 Computational thinking 2.1.2 Designing, creating and refining algorithms 2.1.3 Searching and sorting algorithms</p>
Measuring Impact through:					
<p>Assessment:</p> <ul style="list-style-type: none"> End of topic test 	<p>Assessment:</p> <ul style="list-style-type: none"> End of topic test 	<p>Assessment:</p> <ul style="list-style-type: none"> End of topic test 	<p>Assessment:</p> <ul style="list-style-type: none"> Practical activity 	<p>Assessment:</p> <ul style="list-style-type: none"> End of topic test 	<p>Assessment:</p> <ul style="list-style-type: none"> Practical activity

Year 9 – Intent: iMEDIA

<p><u>Scheme of work:</u></p> <p>Autumn 1 – Use of IT products in the wider world</p> <p>Links to KS4: OCR National Creative iMedia R082 and R085, R087</p> <p><u>Learning Intent:</u> To develop students understanding of a range of IT products used within the real worlds and the concept of audience and purpose. Developing evaluation skills. Key topics covered:</p> <ul style="list-style-type: none"> • E-Safety • E-Safety (Fake news and illegal contents) • Right to access • Different types of products (print, multimedia products, website, album cover, magazine advert) • SOAP (Sense of audience and purpose) • Adherence to legislation • Illustrator <ul style="list-style-type: none"> • Create a logo • Use the Logo in a Digital product 	<p><u>Scheme of work</u></p> <p>Autumn 2 & Spring 1 – Multipage website</p> <p>Link to KS4: OCR National Creative iMedia R081 and R085</p> <p><u>Learning Intent:</u> To build on web design skills developed in year 8 to develop student understanding of website authoring and key features of multipage websites.</p> <p>Key topics covered: Dreamweaver skills</p> <ul style="list-style-type: none"> • Planning documents • Asset preparation and sourcing • Use of a template • Embedding of javascript, flash and multimedia • Div tags • External links <p>Testing and evaluation skills</p>	<p><u>Scheme of work</u></p> <p>Spring 2 & Summer 1– Graphics Project</p> <p>Link to KS4: OCR National Creative iMedia R081 and R085</p> <p><u>Learning Intent:</u> To develop students understanding of project based units and how to approach them in preparation for coursework units. Also to develop key transferable skills of time management, reflection, self management.</p> <p>Key topics covered:</p> <ul style="list-style-type: none"> • File types • Compression types • Print quality • Mock project • Planning and evaluation skills • Online safety 	<p><u>Scheme of work</u></p> <p>Summer 2 – Planning and documentations</p> <p>Links to KS4: OCR National Creative iMedia R082 and R085, R087</p> <p><u>Learning Intent:</u> To enable learners to understand preproduction skills used in the creative and digital media sector.</p> <p>Key topics covered:</p> <ul style="list-style-type: none"> • Purpose and content of preproduction documents: <ul style="list-style-type: none"> ○ Mood boards ○ Mind maps ○ Visualisation diagrams ○ Storyboards ○ Scripts ○ Mock Project
Measuring Impact through:			

<ul style="list-style-type: none"> • Practical – Magazine production • End of term Assessment 	Assessment: <ul style="list-style-type: none"> • Planning assessment • Creation and evaluation assessment 	Assessment: <ul style="list-style-type: none"> • Test • Mock project 	Assessment: <ul style="list-style-type: none"> • Test • Mock Project
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Year 10– Intent: COMPUTER SCIENCE

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Scheme of work:</u> Boolean logic, data and programming Links to KS4: GCSE Computer Science Section 1.2, 2.1 & 2.4</p> <p><u>Learning Intent:</u> To develop the understanding of logic gates and Boolean logic to programs and develop understanding on the use of different ways to use data: E-Safety 2.4.1 Boolean logic 1.2.3 Units 1.2.4 Data storage</p> <ul style="list-style-type: none"> • Numbers 2.1.1 Computational thinking • Practical programming 	<p><u>Scheme of work:</u> Data storage and Algorithm design Links to KS4: GCSE Computer Science Section 1.1, 1.2 & 2.1</p> <p><u>Learning Intent:</u> Further develop programming skills and apply this to computational thinking in algorithm design. 2.1.1 Computational thinking</p> <ul style="list-style-type: none"> • Practical programming 2.1.2 Designing, creating and refining algorithms • Practical programming 1.2.4 Data storage • Characters • Images • Sound • Compression 1.1.1 Architecture of the CPU 1.1.2 CPU Performance 	<p><u>Scheme of work:</u> Architecture of the CPU, Embedded systems and Storage Links to KS4: GCSE Computer Science Section 1.1, 1.2 & 2.2</p> <p><u>Learning Intent:</u> Final investigation of the CPU and develop understanding of related systems such as storage and embedded systems, this will link in with programming fundamentals: 1.1.2 CPU Performance 1.1.3 Embedded systems 1.2.1 Primary storage (Memory) 1.2.2 Secondary storage 2.2.1 Programming fundamentals</p>	<p><u>Scheme of work:</u> Networks and Wireless systems Links to KS4: GCSE Computer Science Section 1.3 & 2.2</p> <p><u>Learning Intent:</u> Develop understanding in network design and how data is transferred across networks. Final preparations for the NEA major project will occur here in the form of additional programming techniques: 1.3.1 Networks and topologies 1.3.2 Wired and wireless networks, protocols and layers 2.2.3 Additional programming techniques</p>	<p><u>Scheme of work:</u> NEA Part 1 Links to KS4: GCSE Computer Science Section 2.1 & 2.4</p> <p><u>Learning Intent:</u> Major project for the topic, this will apply learned programming skills to complete a large project spanning many weeks. This is the planning to creation stage. 2.1.2 Designing, creating and refining algorithms</p> <ul style="list-style-type: none"> • Planning/ design stage 2.1.3 Searching and sorting algorithms • Planning/ design stage 2.2.1 Programming fundamentals • Planning/ design stage 2.2.2 Data types Planning/ design stage 	<p><u>Scheme of work:</u> NEA Part 2 Links to KS4: GCSE Computer Science Section 2.1, 2.5 & NEA</p> <p><u>Learning Intent:</u> Continuation of major project. This covers the creation, testing, reflection and evaluation stage: 2.1.3 Searching and sorting algorithms</p> <ul style="list-style-type: none"> • Creation/ improvements 2.2.1 Programming fundamentals • Creation/ improvements 2.3.2 Testing Creation/ improvements

Measuring Impact through:

Assessment: End of topic test	Assessment: End of topic test	Assessment: End of topic test	Assessment: End of topic test	Assessment: Practical activity	Assessment: Practical activity
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Year 10– Intent: OLD iMEDIA

<p><u>Scheme of work:</u> RO 85 - Creating a multipage website.</p> <p><u>Learning Intent:</u> LO1: Understanding the properties and features of multipage websites</p> <ul style="list-style-type: none"> • Investigate the purpose and component features of multipage websites. • Investigate devices to access webpages. • Investigate methods of internet connections. <p>LO2: To be able to plan a multipage website</p> <ul style="list-style-type: none"> • Interpret the client brief and the target audience requirement of the project. • Create a work plan for the website creation • Plan and prepare the assets you will need for your project. • Plan the resources you will need to use for the project. • Make a test plan for use as you create your website. <p>LO3: be able to create multipage websites using multimedia components.</p> <ul style="list-style-type: none"> • Create folder structures to allow effective organisation of webpage and assets. • Find and import assets that are needed to create your websites. • Make a master page for your website. • Use tools and techniques with the web authoring software to create your website. • Insert a range of assets into the website layout. • Create a functional navigational system for your website. • Save and publish the website in an appropriate location and format using affective version control. <p>LO4: Be able to review a multipage website.</p>	<p><u>Scheme of work</u> RO81 - Preparing for the exam.</p> <p><u>Learning Intent:</u> LO1: Understand the purpose and content of pre-production</p> <ul style="list-style-type: none"> • understand the purpose and uses for mood boards • can create a mood board • understand the purpose and uses for mind maps/spider diagrams • can create a mins map/spider diagram • understand the purpose and uses for visualisation diagrams • can create visualisation diagrams • understand the purpose and uses for storyboards • can create a storyboard • understand the purpose and uses for scripts • can create a script <p>LO2: Be able to plan pre-production</p> <ul style="list-style-type: none"> • can interpret client requirements for pre-production • understand what primary and secondary research is • can produce a work plan and production schedule • understand how to categorise audiences, including: <ul style="list-style-type: none"> ○ gender, ○ age, ○ ethnicity, ○ income, ○ location, ○ accessibility • understand the hardware techniques and software used for, including:
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<ul style="list-style-type: none"> • review your website and consider areas of further improvement and development to your website project 	<ul style="list-style-type: none"> ○ Digitising paper-based documents ○ Creating electronic pre-production documents • understand the health and safety considerations when creating digital media products • understand the legislation regarding any assets to be sourced, including: <ul style="list-style-type: none"> ○ copyright, ○ trademarks, ○ intellectual property • can identify how legislation applies to creative media production, including: <ul style="list-style-type: none"> ○ data protection, ○ privacy, ○ defamation, ○ certification and classification, ○ use of copyrighted material and ○ intellectual property <p>LO3: Be able to produce pre-production documents.</p> <ul style="list-style-type: none"> • understand the properties and limitations of file formats for still images • understand the properties and limitations of file formats for audio • understand the properties and limitations of file formats for moving images • can identify appropriate file formats needed to produce pre-production documents <p>LO4: Be able to review pre-production documents</p> <ul style="list-style-type: none"> • understand how to review a pre-production document • can identify areas for improvement in a pre-production document.
<p>Moderated Assessment covering:</p> <ul style="list-style-type: none"> • RO85 LO1 • RO85 LO2 • RO85 LO3 • RO85 LO4 	<ul style="list-style-type: none"> • End of topic assessments • Class tasks • Homework • Examination

Year 10– Intent: RE-DEVELOPPED iMEDIA

<p><u>Scheme of work:</u> RO93 – Creative iMedia in the media industry</p> <p><u>Learning Intent:</u> Topic Area 1- The media industry</p> <ul style="list-style-type: none"> • Traditional media/New media • Products in the media industry • Job roles in the media industry 	<p><u>Scheme of work:</u> RO93 – Creative iMedia in the media Industry</p> <p><u>Learning Intent:</u> Topic Area 2 – Factors influencing product design.</p> <ul style="list-style-type: none"> • How style, content and layout are link to the purpose. • Clint requirement and how they are defined. • Audience, demographic and segmentation • Research methods, sources and types of data • Media codes used to convey meaning, create impact and or engage audience. 	<p><u>Scheme of work:</u> RO94 – Visual Identity and Digital Graphics</p> <p><u>Learning Intent:</u> Topic Area 1 – Develop visual identity</p> <ul style="list-style-type: none"> • Purpose of Visual identity • Component features if visual identity • Elements of visual identity • Visual Identity design style 	<p><u>Scheme of work:</u> RO94 – Visual Identity and Digital Graphics</p> <p><u>Learning Intent:</u> Topic Area 2 – Plan Digital Graphics for production</p> <ul style="list-style-type: none"> • Concepts of Graphic Design • Layout conventions for different graphic products and purpose. • Properties of Digital graphics and use of assets. • Techniques to plan visual identity and Digital graphics 	<p><u>Scheme of work:</u> RO94 - Visual Identity and Digital Graphics</p> <p><u>Learning Intent:</u> Topic Area 3 – Tools and techniques used to create Digital Graphics</p> <ul style="list-style-type: none"> • Tools and techniques or 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 <p><u>Scheme of work:</u> RO97 – Interactive Digital Media</p> <p><u>Learning Intent:</u> Topic Area 1 – Plan Interactive Digital media</p> <ul style="list-style-type: none"> • Types of Interactive Digital media, content and associated hardware. • Features and conventions of interactive Digital media • Resources required to create interactive digital media • Pre-production and planning documentation and techniques for interactive digital media.
<p>Class Task Homework</p>	<p>Class Task Homework</p>	<p><u>Moderated Assessment covering:</u> RO94 Topic Area 1</p>	<p><u>Moderated Assessment covering:</u> RO94 Topic area 2</p>	<p><u>Moderated Assessment covering:</u> RO94 Topic area 3</p> <p><u>Moderated Assessment covering:</u> RO97 Topic Area 1</p>

Year 11– Intent: COMPUTER SCIENCE

<p><u>Scheme of work:</u> Network and system security Links to KS4: GCSE Computer Science Section 1.4, 1.5 & 1.6</p> <p><u>Learning Intent:</u> To develop the understanding of network and system security and its impact on both businesses and users:</p> <p>1.4.1 Threats to computer systems and networks 1.4.2 Identifying and preventing vulnerabilities 1.5.1 Operating systems 1.5.2 Utility software 1.6.1 Ethical, legal, cultural and environmental impact</p>	<p><u>Scheme of work:</u> Defensive design and programming language Links to KS4: GCSE Computer Science Section 2.3 & 2.5</p> <p><u>Learning Intent:</u> To develop understanding in how programming languages are used to software and security protocols:</p> <p>2.3.1 Defensive design 2.3.2 Testing 2.5.1 Languages 2.5.2 The Integrated Development Environment (IDE)</p>	<p><u>Scheme of work:</u> Practical programming revision Links to KS4: GCSE Computer Science Section 2 & 2.1</p> <p><u>Learning Intent:</u> To revisit programming skills to help prepare for the section 2 exam:</p> <p>2.1.3 Searching and sorting algorithms</p> <p>Revise all practical skills from section 2</p>	<p><u>Scheme of work:</u> Revision Links to KS4: GCSE Computer Science Section 1</p> <p><u>Learning Intent:</u> To revisit theory to help prepare for the section 1 exam:</p> <p>Revising all of section 1 & 2</p>	<p><u>Scheme of work:</u> Exam period/ study time Links to KS4: GCSE Computer Science Section 1, 2 & exams</p> <p><u>Learning Intent:</u> Final opportunity to help students revise and fill knowledge gaps in preparation of both sections 1 & 2 exams:</p> <p>Final revision opportunities of sections 1 & 2</p>
<p>Measuring Impacts through:</p>				
<p>Assessment: End of topic test</p>	<p>Assessment: End of topic test</p>	<p>Assessment: Practical activities and topic tests</p>	<p>Assessment: Model exam questions Final exams (if done this half term)</p>	<p>Assessment: Model exam questions Final exams (if not done already)</p>

Year 11– Intent: OLD iMEDIA

Scheme of work:

RO 82 - Creating a multipage website.

Learning Intent:

LO1: Understanding the properties and features of multipage websites

- Investigate the purpose and component features of multipage websites.
- Investigate devices to access webpages.
- Investigate methods of internet connections.

LO2: To be able to plan a multipage website

- Interpret the client brief and the target audience requirement of the project.
- Create a work plan for the website creation
- Plan and prepare the assets you will need for your project.
- Plan the resources you will need to use for the project.
- Make a test plan for use as you create your website.

LO3: be able to create multipage websites using multimedia components.

- Create folder structures to allow effective organisation of webpage and assets.
- Find and import assets that are needed to create your websites.
- Make a master page for your website.
- Use tools and techniques with the web authoring software to create your website.
- Insert a range of assets into the website layout.
- Create a functional navigational system for your website.
- Save and publish the website in an appropriate location and format using affective version control.

LO4: Be able to review a multipage website.

review your website and consider areas of further improvement and development to your website project

Moderated Assessment covering:

RO82 LO1, RO82 LO2, RO82 LO3, RO82 LO4

Scheme of work:

RO 87 - Creating interactive multimedia products

Learning Intent:

LO1: Understanding the properties and features of multipage websites

- Investigate the purpose and component features of multipage websites.
- Investigate devices to access webpages.
- Investigate methods of internet connections.

LO2: To be able to plan a multipage website

- Interpret the client brief and the target audience requirement of the project.
- Create a work plan for the website creation
- Plan and prepare the assets you will need for your project.
- Plan the resources you will need to use for the project.
- Make a test plan for use as you create your website.

LO3: be able to create multipage websites using multimedia components.

- Create folder structures to allow effective organisation of webpage and assets.
- Find and import assets that are needed to create your websites.
- Make a master page for your website.
- Use tools and techniques with the web authoring software to create your website.
- Insert a range of assets into the website layout.
- Create a functional navigational system for your website.
- Save and publish the website in an appropriate location and format using affective version control.

LO4: Be able to review a multipage website.

review your website and consider areas of further improvement and development to your website project

Moderated Assessment covering:

RO87 LO1, RO87 LO2, RO87 LO3, RO87 LO4

Year 11– Intent: RE-DEVELOPPED iMEDIA

<p>Scheme of work: RO97 – Interactive Digital Media</p> <p>Learning Intent: Topic Area 2 – Create interactive Digital media</p> <ul style="list-style-type: none"> • Technical skills to create and/ or edit and manage assets for use within interactive digital media products. • Technical skills to create interactive digital media <p>Techniques to save and export/ publish interactive digital media</p>	<p>Scheme of work: RO97 – Interactive Digital Media</p> <p>Learning Intent: Topic Area 3 – Review Interactive Digital media</p> <ul style="list-style-type: none"> • Techniques to test/check and review interactive digital media • Improvements and future developments. 	<p>Scheme of work: RO93 – Creative iMedia in the media industry</p> <p>Learning Intent: Topic Area 3 – Pre-production planning</p> <ul style="list-style-type: none"> • Work planning • Documents used to support ideas generation • Documents used to design and plan media products <p>The legal issues that affect media</p> <ul style="list-style-type: none"> • Legal considerations to protect individuals • Intellectual property rights • Regulation, certification, and classification • Health and Safety 	<p>Scheme of work: RO93 – Creative iMedia in the media industry</p> <p>Learning Intent: Topic Area 4 – Distribution considerations</p> <ul style="list-style-type: none"> • Distribution platforms and media to reach audiences • Properties and formats of media files • Audio files • Moving Image files • File compression
<p>Measuring impact through:</p>			
<p>Moderated Assessment covering: RO97 Topic Area 2</p>	<p>Moderated Assessment covering: RO97 Topic Area 3</p>	<p>Revision Tasks Class Tasks Homework</p>	<p>External Exams</p>

Year 12– Intent: Year 12 Cambridge Technical (Single award- Sept 2022)

Autumn 1 – Unit 1 / Unit 2	Autumn 2 – Unit 1 / Unit 2	Spring 1- Unit 1 / Unit 2	Spring 2 & Summer 1– Unit 1 / Unit 2	Summer 2 – Unit 8
<p>INTENT: To gain an understanding of IT technologies and practices is essential for IT professionals. To understand the uses of information in the public domain, globally, in the cloud and across the internet, by individuals and organisations</p>				<p>INTENT: To understand and use various project planning skills and techniques, thereby enabling you to become more effective in the workplace.</p>
<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 1 <ul style="list-style-type: none"> ○ Computer hardware ○ Computer components ○ Connectivity methods ○ Types of computer systems • Unit 2 <ul style="list-style-type: none"> ○ Holders of information ○ Types of information storage media ○ Types of information access and storage devices ○ The internet ○ WWW technologies ○ Information formats ○ Information styles ○ Information classifications 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 1 <ul style="list-style-type: none"> ○ Communications hardware ○ Hardware troubleshooting ○ Number systems ○ Number conversion ○ Types of software ○ Operating systems ○ Protocols ○ Types of servers • Unit 2 <ul style="list-style-type: none"> ○ Quality of information ○ Information management ○ Data vs Information ○ Categories of information used by individuals / organisations ○ Stages of data analysis ○ Data analysis tools ○ Information system structure ○ UK legislation 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 1 <ul style="list-style-type: none"> ○ Networking characteristics ○ Connectivity methods ○ Communication skills ○ Personal attributes ○ Job roles ○ Professional bodies and industry certification • Unit 2 <ul style="list-style-type: none"> ○ Global information protection legislation and regulation ○ Green IT ○ Information sources ○ Data types ○ Data flow diagrams ○ Impacts affecting the flow of information ○ Principles of information security ○ Risks in information security 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 1 <ul style="list-style-type: none"> ○ Ethical issues ○ Operational issues ○ Threats ○ Digital security ○ Safe disposal of data and computer equipment • Unit 2 <ul style="list-style-type: none"> ○ Impact of risks on holders of information ○ Protection measures ○ Case study 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 8 <ul style="list-style-type: none"> ○ Project methodologies ○ Project life cycle ○ Project issues ○ Documentation
<p>Measuring impact through:</p>				
External exams	External exams	External exams	External exams	Moderated Projects

Year 12– Intent: Year 12 Cambridge Technical (Double award- Sept 2022)

Autumn 1 – Unit 22 / Unit 17	Autumn 2 – Unit 22 / Unit 17	Spring 1- Unit 22 / Unit 17	Spring 2 & Summer 1 – Unit 3	Summer 2 – Unit 12 & 9
<p>INTENT: To learn what Big Data is, how it can be gathered, analysed and used by businesses. To learn about the Internet of Everything (IoE) and how it is used</p>			<p>INTENT: To gain knowledge and understanding of the range of threats, vulnerabilities and risks that impact on both individuals and organisations.</p>	<p>INTENT: To broaden knowledge and understanding of the wider potential of mobile technologies and its consequences to people and businesses. To learn about different product design methodologies and the role of the product development life cycle.</p>
<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 22 <ul style="list-style-type: none"> ○ What is big data ○ Use of big data ○ Impact on organisations ○ Infrastructure challenges posed by big data ○ Assignment 1 • Unit 17 <ul style="list-style-type: none"> ○ Internet of everything what is it ○ Where IOE is used ○ Applications of IOE ○ Global impacts ○ Four pillars of IOE ○ IOE people and how they connect ○ Converting data into information ○ Information gathering devices 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 22 <ul style="list-style-type: none"> ○ Big data sources ○ Big data risks ○ Preparing big data for analysis ○ Processing big data ○ Evaluating results ○ Assignment 2 • Unit 17 <ul style="list-style-type: none"> ○ Connectivity ○ Networked connections ○ Security issues ○ Assignment 1 ○ Repurposing technologies to extend scope of the IOE ○ Feasibility studies 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 22 <ul style="list-style-type: none"> ○ Presenting results ○ Target audience consideration ○ Big data recommendations ○ Assignment 3 • Unit 17 <ul style="list-style-type: none"> ○ Assignment 2 ○ Business proposals ○ Pitch ○ Stakeholder considerations ○ Assignment 3 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 3 <ul style="list-style-type: none"> ○ Cyber security controls ○ Responding to an incident ○ Cyber security incident report ○ Cyber security aims ○ Types of cyber security incidents ○ Threats to cyber security ○ Types and motivations for attackers ○ Targets for cyber security ○ Impacts of cyber security incidents ○ Other considerations for stakeholders ○ Revision for exam 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 12 <ul style="list-style-type: none"> ○ Uses of mobile technologies ○ Connectivity ○ Current and potential uses ○ Assignment 1 • Unit 9 <ul style="list-style-type: none"> ○ Product development methodologies ○ Product development lifecycle ○ Assignment 1

○ Process and Processing capabilities				
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Measuring impact through:

Moderated Projects	Moderated Projects	Moderated Projects	External exams	Moderated Projects
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Year 13– Intent: Cambridge Technical (Single award - Sept 2023)

Autumn 1 – Unit 6&8 / Unit 21	Autumn 2 – Unit 6&8 / Unit 21	Spring 1- Unit 6&8 / Unit 21	Spring 2 - Unit 6&8 / Unit 21
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INTENT:
 To develop skills in the designs for an application and how users will interact with it.
 To understand and use various project planning skills and techniques.
 To develop skills in research, design and produce an interactive, responsive website that is specific to a client’s needs, culminating in presenting the concept of the website using the prototype to the client.

<p>Key topics covered:</p> <ul style="list-style-type: none"> ● Unit 6 & 8 <ul style="list-style-type: none"> ○ Application development models ○ Project methodologies ○ Project life cycle ○ Assignment 1 ● Unit 21 <ul style="list-style-type: none"> ○ Web design skills ○ Components of web design 	<p>Key topics covered:</p> <ul style="list-style-type: none"> ● Unit 6 & 8 <ul style="list-style-type: none"> ○ Methods of gathering user requirements ○ User requirements ○ Feasibility study ○ Initiation phase ○ Use of design diagrams ● Unit 21 <ul style="list-style-type: none"> ○ Assignment 1 ○ Execution phase ○ Web design skills ○ Databases 	<p>Key topics covered:</p> <ul style="list-style-type: none"> ● Unit 6 & 8 <ul style="list-style-type: none"> ○ Pitch content ○ Pitch delivery ○ Assignment 3 ○ Client meetings / presentations ○ Prototyping ○ Aspects of user feedback ● Unit 21 <ul style="list-style-type: none"> ○ Web design skills ○ Evaluating against client needs ○ Assignment 2 	<p>Key topics covered:</p> <ul style="list-style-type: none"> ● Unit 6 <ul style="list-style-type: none"> ○ Assignment 4 ○ Unit 21 & 8 ○ Assignment 2 ● Unit 21 & 8 <ul style="list-style-type: none"> ○ Assignment 2 ○ Presenting the solution ○ Future security and maintenance considerations ○ Assignment 3
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Measuring impact through:

Moderated Projects	Moderated Projects	Moderated Projects	Moderated Projects
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Year 13– Intent:

Autumn 1 – Unit 12 / Unit 13 / Unit 9	Autumn 2 – Unit 12 / Unit 13 / Unit 9	Spring 1- Unit 12 / Unit 13/ Unit 9	Spring 2 Unit 13 / Unit 9
Links to KS4:	Link to KS4:	Link to KS4:	Link to KS4:
<p>INTENT: To broaden knowledge and understanding of the wider potential of mobile technologies and its consequences to people and businesses. To learn about different product design methodologies and the role of the product development life cycle. To understand digital marketing as a concept and to explore the possible impacts, both positive and negative, that may be generated by the use of social media as a digital marketing tool</p>		<p>INTENT: To understand digital marketing as a concept and to explore the possible impacts, both positive and negative, that may be generated by the use of social media as a digital marketing tool. To learn about different product design methodologies and the role of the product development life cycle.</p>	
<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 12 <ul style="list-style-type: none"> ○ Uses of mobile technologies ○ Ethical ○ Assignment 2 ○ Investigation business requirements ○ Planning • Unit 13 <ul style="list-style-type: none"> ○ Role of marketing within a business ○ Social media ○ Digital marketing strategies ○ Digital marketing life cycles ○ Assignment 1 • Unit 9 <ul style="list-style-type: none"> ○ Product development methodologies ○ Requirements analysis phase ○ Design phase ○ Assignment 2 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 12 <ul style="list-style-type: none"> ○ Planning constraints ○ Technology business plan ○ Assignment 3 ○ Promoting the mobile technological solution ○ Feedback analysis ○ Predicting consequences of change • Unit 13 <ul style="list-style-type: none"> ○ Research ○ Data as a resource ○ Use of data ○ Communication ○ Legislation and business policy and practice ○ Ethical and moral issues ○ Assignment 2 • Unit 9 <ul style="list-style-type: none"> ○ Unit testing ○ Integration of testing ○ Use of results ○ Implementation logs and plans 	<p>Key topics covered:</p> <ul style="list-style-type: none"> • Unit 12 <ul style="list-style-type: none"> ○ Feedback analysis ○ Predicting consequences of change ○ Assignment 4 • Unit 13 <ul style="list-style-type: none"> ○ Social media channels ○ Potential positive and negative outcomes ○ Features of a social media marketing campaign ○ Campaign considerations ○ Effectiveness of digital marketing campaigns ○ Assignment 3 • Unit 9 <ul style="list-style-type: none"> ○ Acceptance testing ○ Maintenance phase ○ Assignment 4 	<ul style="list-style-type: none"> • Unit 13 <ul style="list-style-type: none"> ○ Assignment 4 • Unit 9 <ul style="list-style-type: none"> ○ Assignment 4

	○ Assignment 3		
Measuring impact through:			
Moderated Projects	Moderated Projects	Moderated Projects	External exams