

Computing

Curriculum Principles

By the end of their all-through education, a student of computing at Dixons Trinity Chapeltown will:

- know the importance of computer science and the contribution emerging technologies can make in society. Students will know how to program using industry standard programming languages and how computers communicate internally and globally. Students will be able to communicate, with confidence, the effects of the technological and cultural divide facing society. Students will be taught the GCSE computer science curriculum in order to prepare them for A-Level studies in the subject.
- understand that we are now in a digital age. Computer scientists can theorise, design, develop and implement new programmes that have stance globally. Students at Dixons Trinity Chapeltown, will be exposed to a diverse curriculum that will effectively prepare them for further study at University.

Our unifying 'sentence' is: "The Computing Department worked tirelessly to ensure all students were exposed to an exciting computing curriculum in order to contribute effectively towards the development of a technological society."

In order to achieve a true understanding of computing, topics have been intelligently sequenced based on the following rationale:

- the computing curriculum is built upon abstract skills, like algorithmic thinking, problem solving, and decomposition from Y1. Computer Science will have cross-curricular links to subjects such as: PE, science, mathematics and art and design.
- the curriculum has clear literacy links to embed key terminology, so children are speaking as computer scientists from a young age.
- the curriculum is designed to be spiralised, in line with Bruner's spiral curriculum theory. Topics are covered, then revisited through low stakes quizzing throughout the cycle and then in future years. This ensures the forgetting is interrupted and revision occurs throughout school. Delivering the curriculum in this way allows for further, extensive teaching once the foundations are established.
- students of computing are introduced to GCSE computer science topics and vocational based skills throughout their studies from Y1. Students will use terminology correctly, such as 'algorithm' in primary computing lessons and understand the purpose of following instructions clearly which can then be applied to understanding how a computer processes these instructions as commands.

The computing curriculum will address social disadvantage by addressing gaps in students' knowledge and skills:

- there is no assumption from the department that students will have access to specialist hardware and software outside of school. As such, extra-curricular clubs will have access to technology should any student wish to continue learning about a specific topic. The laptops will have all required software. Interleaved revision at home will take place on the 100% sheets and there is no requirement for students to have access to computer equipment at home to complete.
- students requiring additional support benefit from the double-staffing model. This ensures intervention is proactive and data driven. On a regular basis, members of the computing department address the gaps identified from in-class or cycle assessment data in order to offer provision to eradicate these differences.

We fully believe computing can contribute to the personal development of students at DTC:

- valuable team-working skills will be developed by working together to debug and resolve issues in code. Students will learn programming through a driver-navigator method where each person has a responsibility for reading and writing code accurately. They will learn how to write code through an understanding that making mistakes is vital for our development and mistakes in code teach us different ways to solve the same problem. The computing curriculum requires resilience, especially in topics such as Python programming and this skill will help students throughout their time at school and beyond.
- students will learn how to decompose problems and think abstractly in order to develop problem solving skills, from Y1 throughout school, which will benefit them in all other lessons and throughout their career. The ability to decompose a problem, think abstractly and use logical reasoning to create a solution to a problem, will be developed in each computing lesson to ensure this skill is fully embedded.
- the computing curriculum offers the opportunity to investigate the legal implications of computing. Students will be able to give their opinions on matters affecting computing, like ethical hacking, data storage and targeted advertising. They will also be able to argue on topics such as: ethical, cultural and moral issues within computer science. Alongside investigating the environmental impact of technology development and recycling of materials.
- students will also complete a computing project where they are to plan, design, create, test and evaluate a solution to a real-life problem. These projects will be filmed and shown to family members.



At KS2, KS3 and KS4, our belief is that homework should be interleaved-revision of powerful knowledge that has been modelled and taught in lessons. This knowledge is recalled and applied through a range of low-stakes quizzing and practice.

Opportunities are built in to make links to the world of work to enhance the careers, advice and guidance that students are exposed to:

- the computing curriculum provides students with opportunities to consider the world of work and how the development of IT and computational skills lead to successful careers. The SoW refers to how the skill in question relates to specific careers in a 'careers spotlight', for example, when teaching Operating Systems, reference can be made to careers in Cyber Security or Software Development.
- students will be able to put their knowledge of computer science into practice during expeditions to universities in Y9 and Y10 where they will meet undergraduates studying in the field and preparing to begin a career in computing. Further expeditions to workplaces within Leeds will show students how the city is contributing to the development of new technology in Leeds.
- the curriculum provides multiple career opportunities for students. They will investigate the wealth of careers available in the field of computer Science from Y2 and as they progress through the academy, they will be shown real-life examples of careers and see first-hand the requirements of roles and the types of responsibilities computer scientists have.

A true love of computing involves learning about various cultural domains. We teach beyond the specification requirements, but do ensure students are well prepared to be successful in GCSE examinations:

- the Computing Department also run co-curricular electives in robotics, and the Duke of York iDEA award, so students are able to put their programming skills into contextualised practice, to instil a love of computing-based subjects.
- students will cover large topics like the three constructs (abstraction, decomposition and computational thinking) through play-based learning in Y1 and more academic lessons from KS2. Students will be taught algorithmic practice from Y1, in the form of following specific instructions and understanding how a computer processes these instructions. The GCSE Computer Science specification, alongside the National Curriculum for Computing, underpins the entire scheme from early years through to GCSE and topics are intelligently sequenced and revisited.



Curriculum Overview

All children are entitled to a curriculum and to the powerful knowledge that will open doors and maximise their life chances. Below is a high-level overview of the critical knowledge children will learn in this particular subject, at each key stage from Reception through to Year 11, in order to equip students with the cultural capital they need to succeed in life. The curriculum is planned vertically and horizontally giving thought to the optimum knowledge sequence for building secure schema.

		Knowledge; skills and understanding to be gained at each stage*		
		Cycle 1	Cycle 2	Cycle 3
EYFS	Know and remember	Play interactive games using technology; cause and effect; toys that wind / buttons / movement / sound books	Programming – use Bee-Bots to start to understand sequencing	Know that a range of technology is used in places such as homes and schools. Select and use technology for different purposes
	Do	Enabling Environments: playing with a range of materials and objects that work in different ways for different purposes; playing with a range of programmable toys and equipment including computers; using search engines to research; using telephones for communication; use the Paint programme within the creative area		
	e- safety	Feeling safe online; adult supervision and how to ask for support and permission		
YEAR 1	Know and remember	Safe use of technology Logging on, use of a trackpad/mouse. Opening and closing programs, keeping password and username safe. Dragging, copying, pasting, left-click, right-click Use of technology Technology outside of school (self-service checkouts / ticket machines); impact to society. How technology is used within education, hospitals, retail	Personal Information How to keep safe online. Investigating which information can be shared and which needs to be kept private. Researching personal information and offering advice on how to protect data Careers in ICT / Computing Common careers in the field and routes to get there. Personal project researching careers and using software to present findings	Algorithms Importance of clear instructions within a computer system Scratch Directional programming in a block-based environment. Decomposition, abstraction and iteration Micro:Bit Block-based coding using the online platform that is downloaded onto the physical devices
	ICT skills	Typing, saving, editing, undo and redo, select and format text		
	e- safety	Keeping safe online; searching for images; personal information; owning your creative work		
	NCC aims	1D	1A, 1B, 1C	1A, 1B, 1E
	Vertical and horizontal interleaving	Links to e-safety throughout the curriculum each year	E-safety – how to ask for support, built upon to understand how to report concerning content	Foundation skills to be built on in subsequent years / cycles
	YEAR 2	Know and remember	Safe use of technology Recapping how to use PC equipment safely and responsibly Internet explorer Developing independent internet research skills – on the topic of e-safety	Algorithm prediction Tracing pre-designed algorithms in order to predict their outcomes Using patterns and logic to solve problems
ICT skills		Create a folder; new slide; new layout; add and format images; reorder slides; search and print		
e- safety		Digital footprints; using technology safely and respectfully; keeping personal information private; being kind online		
NCC aims		1A, 1B, 1C	1A	1D, 1F, 1E
Vertical and horizontal interleaving		Word processing and computer skills (Y1) Geography – Interactive maps (C1 Y2)	Algorithms (Y1), directional programming in a block based environment	Safe use of a computer (Y1) Computer skills (typing, formatting, editing images) (Y1)
YEAR 3	Know and remember	Physical systems Creating working systems with hardware or through online software Designing, writing and debugging algorithms What are algorithms and how do we write them? Use of flowchart shapes to create solution; coding in scratch	Decomposition Investigating how to break down a large problem into smaller, independent programs Abstraction Removal of the non-essential data so as to focus on important elements	Sequence, selection, iteration Using options within their programs and investigate the best way to structure code Use of loops and evaluate the effectiveness on the efficiency



		Knowledge; skills and understanding to be gained at each stage*		
		Cycle 1	Cycle 2	Cycle 3
YEAR 3	ICT skills	Case change; align text; bullets and numbering; keyboard shortcuts; text boxes and text wrapping		
	e- safety	e-mails; online communications; cyber bullying		
	NCC aims	2A, 2B	1A, 2A	2B
	Vertical and horizontal interleaving	Bullying in PSHCE (Y3 C1) Computer skills and word processing (Y1 / Y2) Creating digital content (Y2 C3)	Algorithms (Y1-2), directional programming in a block based environment	Algorithms (Y1-2), directional programming in a block based environment
YEAR 4	Know and remember	Variables Identify the purpose and functionality of variables in programs Investigate: Why are variables used in programming? Hardware and software Students will investigate the hardware needed to build a computer systems and the role of software	Input and output systems Research different devices and their purpose within a computer Storage devices Students will investigate how data is stored on a computer system and research both primary and secondary storage methods	Memory Explore how data is stored in binary and how devices communicate within a computerized system Coding Block based coding (scratch / Kodu) using IF / THEN statements
	ICT skills	Format images; layout; spell check; tables; hyperlinks		
	e- safety	Plagiarism; using search engines; being a good online citizen and how to deal with cyber bullying		
	NCC aims	1E, 2A, 2B	2E, 2F, 2G	2A, 2B, 2C
	Vertical and horizontal interleaving	Cyber-bullying (Y3) Word processing (Y1-3)	Computer skills and word processing (Y1 / Y2)	Algorithms (Y1-3), directional programming in a block based environment.
YEAR 5	Know and remember	Debugging Investigating errors in code and writing solutions Networking LAN, MAN, WAN, peer to peer networks How devices communicate in a network	Internet Explore the WWW and internet as a collection of web pages Communication and collaboration Investigate how devices can be used as a communication and collaboration tool	Analysing digital content Assessing against a brief and identifying improvements
	e- safety	Spam e-mails; citing sources; safe passwords; fake images; investigating methods of keeping information safe; using websites correctly and reporting concerns		
	NCC aims	1E, 2D	2D, 2E, 1E	2E, 2F, 2G
	Vertical and horizontal interleaving	Networking (Y3 C2) Algorithms (Y1, Y2)	Emails (Y3 C1)	Use of software to create content (Y3 C1)
YEAR 6	Know and remember	Sensible use of technology Exploring ways to use websites safely Software for presenting Use of PowerPoint and Publisher to produce presentational pieces	Producing digital content Reviewing online content and creating own web blog / website Games design Producing own games in Scratch / alternative block-based coding	Games development Producing games in scratch using variables, iteration, sequence and selection Testing and evaluation Writing accurate tests to assess the functionality of developed game Recommendations for future development
	e- safety	Internet is media which forms stereotypes		
	NCC aims	1E, 2E, 2F, 2G	2C, 2B	2A, 2B, 2G, 2F, 1C, 1G
	Vertical and horizontal interleaving	Presenting (Y2 C1) PSHCE – In the media and stereotypes (Y5 C1)	PSHCE – Playing online games safely (Y4 C2) Safe use of the PC (Y1 C2)	Algorithms (Y1-5), directional programming in a block based environment.



		Knowledge; skills and understanding to be gained at each stage*		
		Cycle 1	Cycle 2	Cycle 3
YEAR 7	Know and remember	Digital literacy and e-safety Recognise reliable information sources and list way to keep safe online Binary Converting from binary to denary and visa versa Performing binary addition and explaining the overflow error	Algorithms Importance of writing clear instructions Computational thinking Thinking like a computer in order to solve a problem	Python programming Writing programs in Python using sequence, selection and iteration Hardware and software Investigate the hardware needed to build a PC system and the software that runs on top
	NCC aims	3I, 3H, 3G, 3E	3A	3C, 3F
	Skills revisited	Builds upon knowledge of how to keep oneself safe on computer devices and place value in binary	Builds upon algorithmic thinking practice skills taught in lower and middle peak	Builds upon computational thinking and algorithmic practice. Scratch programming skills revisited
	CEIAG	Careers in mathematics and data analysis (Topic 2: binary)	Careers in software development (Topic 3: Algorithms / Topic 4: Computational Thinking)	Careers in programming (Topic 5: Python Programming)
YEAR 8	Know and remember	E-Safety Analysing online presence and conduct. Alongside the risks and implications of web access	Hardware and Software Investigating the physical components of a computer system and the applications run on top of this.	Python programming Introduction to programming using block and object-orientated language, using the PRIMM methodology
	NCC aims	3E, 3I	3F, 3D	3G, 3H, 3E
	Skills revisited	Builds upon knowledge of how to keep oneself safe on computer devices	Builds upon the knowledge of hardware and software required to build and secure a computer	Builds upon python programming skills developed in middle peak and links to algorithmic practice and computational theory
	CEIAG	Careers in Cyber Security (Topic 1: E-Safety)	Careers in Game/Software Design (Topic 2: Hardware and Software)	Careers in Programming (Topic 3: Programming)
YEAR 9	Core	Duke of York IDEA award Students complete Information Technology challenges to earn points towards badges, iDEA is the digital and enterprise equivalent of the Duke of Edinburgh award. Bronze, Silver and Gold award. Challenge elements include: citizen, worker, maker and entrepreneur for Bronze award. Challenges relate to E-Safety, Digital Literacy, Cloud-based systems and storage, cyber security, networking, social media ethics, big data, internet of things, user interfaces and experiences, design psychology, automation, virtual reality, video editing, coding, research and problem solving and more. The iDEA award links to the national curriculum for computing and covers concepts such as programming through the creation and evaluation of computational abstractions in the programming modules and use of more than one programming language. In the iDEA award, students use javascript, python and SQL to interpret, correct and create code. Students will learn to work with Boolean logic during the binary module and during the user interface and sys admin, students will learn how hardware and software communicate.		
	NCC aims	3B, 3D, 3I, 3C, 1E, 3G, 3F, 3A		
	CEIAG	Careers in mechanical engineering, programming, software development and technical support.		
	Examination	1.1 Systems Architecture Components of the PC and their functionality. FDE Cycle and Von Nuemann architecture 1.2 Memory and Storage Primary and secondary storage, data capacity calculations, binary representation, compression 1.3 Networks, connections and protocols How devices communicate across a network, the internet, the world wide web, rules for transmission 1.4 Network security Protecting the network against internal and external threats	1.5 Systems software Investigate the hardware needed to build a PC system and the software that runs on top 1.6 Ethical, legal, cultural and Environmental impacts Analysing the impacts of computing technology on the wider community 2.1 Algorithms Pseudocode and flowcharts used to create algorithms 2.2 Programming fundamentals Representation of algorithms, defensive design considerations	2.3 Producing robust programs Writing in Python using variables, inputs processes and outputs 2.4 Boolean Logic Logic gates, truth tables and combining gates to produce logic diagrams 2.5 Programming languages Using a compiler and an interpreter to produce programs



		Knowledge; skills and understanding to be gained at each stage*		
		Cycle 1	Cycle 2	Cycle 3
YEAR 9	NCC aims	3E, 3I	3E, 3I	3A, 3C
	Skills revisited	Builds upon the knowledge of hardware and software and how to be safe, and protect a computer device	Builds upon the Python and Scratch programming languages developed in middle and lower peak, alongside hardware within a computing device	Builds upon knowledge of numbering systems and place value. Links to Scratch block-based programming and pythonic language
	CEIAG	Careers in animation design (Topic 1-3: animation)	Careers in Systems Analysis (Topic 2 memory and topic 3 Operating Systems)	Careers in Multimedia programming (Topic 4/5/6: Programming)
YEAR 10	Creative Media Production	Unit 1 – Exploring media products Investigating the impact of media and how media has progressed through the years. Explore how media can be used for a variety of purpose and the varieties of audience. (This unit will be completed in Cycle 2)	Unit 2 – Developing digital media production skills There are three learning aims for this unit: Develop media production skills and techniques, apply media production skills and techniques, review own progress and development of skills and practices. (This unit will be completed in cycle 3)	Unit 3 – Create a media product in response to a brief There are four assessment objectives for this unit: Understand how to develop ideas in response to a brief, develop planning materials in response to a brief, apply media production skills and techniques to the creation of a media product, create and refine a media product to meet the requirements of a brief
	OCR GCSE Computer Science	Component 1 – systems architecture Memory; storage; wired and wireless networks; network topologies; protocols and layers; system security; system software; ethical, legal, cultural and environmental concerns	Component 2 – algorithms and programming Algorithms; programming techniques; producing robust programs; computational logic; translators and facilities of languages; data representation	Component 3 – project / exam prep Programming techniques; analysis; design; development; testing, evaluation and conclusions
	Skills revisited	Builds upon knowledge of primary and secondary storage and compatibility of technical components within a computer	Builds upon knowledge of programming in text-based and high-level programming languages. Links to machine code taught in middle peak	Builds upon knowledge of sequencing, selection and iteration alongside the software design lifecycle
	CEIAG	Careers in Technical Writing (Topic 1: Systems Architecture)	Careers in Multimedia (LO1- LO4) Careers in software development (Component 2)	Careers in Website Design (LO1- LO4)
YEAR 11	OCR GCSE Computer Science	Component 1 Systems architecture; recap of systems architecture; memory; storage; wired and wireless networks; network topologies; protocols and layers; system security; system software; ethical, legal, cultural and environmental concerns	Component 2 Algorithms and programming Producing robust programs; computational logic; translators and facilities of languages; data representation	
	CEIAG	Careers in Network Security (Component 1)	Careers in Programming (Component 2)	

*A powerful, knowledge-rich curriculum teaches both **substantive knowledge** (facts; knowing that something is the case; what we think about) and non-declarative or **procedural knowledge** (skills and processes; knowing how to do something; what we think with). There are no skills without bodies of knowledge to underpin them. In some subjects, a further distinction can be made between substantive knowledge (the domain specific knowledge accrued e.g. knowledge of the past) and disciplinary knowledge (how the knowledge is accrued e.g. historical reasoning). Please refer to the DAT Curriculum Principles, published on our website, for further information about how we have designed our all-through curriculum.



Year 7 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 24/08	W/C 31/08	W/C 07/09	W/C 14/09	W/C 21/09	W/C 28/09	W/C 05/10	W/C 12/10	W/C 02/11	W/C 09/11	W/C 16/11	W/C 23/11	W/C 30/11
	Induction GL assessments Office 365 Login and familiarisation	Baseline assessment E-safety E-safety L1 – Content Personal Information	E-safety L2 – Content misuse of information E-safety L3 - Content Identifying reliable sources of information	E-safety L4 - Content analysing ‘fake news’ E-safety L5 – Conduct Email etiquette	E-safety L6 – Conduct cyberbullying case studies Messy marking E-safety L7 – Conduct Digital footprint Case studies	E-safety L8 – Conduct Positive platform promotion E-safety L9 – Content Reporting concerns. Privacy settings and blocking	E-safety L10 – Contact Legal implications: creating and sharing E-safety L11 – Contact Copyright law	E-safety L12– Contact Intellectual property and defamation of character Review E-safety	Reinduction Binary 1s and 0s - purpose Binary Numbering systems – binary and denary	Binary 2-bit denary conversions Binary 4 & 8 bit binary conversions	Binary Extended writing 1 Messy marking Binary Image representation	Binary sound representation Binary text representation	Binary addition Binary Binary - hex Extended writing two
Cycle 2	W/C 07/12	W/C 14/12	W/C 04/01	W/C 11/01	W/C 18/01	W/C 25/01	W/C 01/02	W/C 08/02	W/C 22/02	W/C 01/03	W/C 08/03	W/C 15/03	W/C 22/03
	Algorithms What an algorithm is Algorithms Flowchart shapes	Algorithms Creating algorithms in flowcharts Algorithms Correcting algorithms in flowchart	Algorithms Sequencing in flowchart Algorithms Introduction to pseudocode	Algorithms Writing algorithms in pseudocode Algorithms Correcting pseudocode Messy marking	Algorithms Loops in Scratch– repeat loop Algorithms Gap closing	Algorithms Loops in pseudocode – while loop Algorithms Building algorithms from code - flowchart	Review Algorithms Building algorithms from code - pseudocode	Assessment Algorithms Computational thinking Abstraction	Computational thinking abstraction Computational thinking abstraction	Computational thinking Decomposition Review Cycle 1 and 2	Computational thinking Decomposition Computational thinking Decomposition diagram	Computational thinking Technology in the wider world - education Computational thinking Technology in the wider world	Computational thinking Technology in the wider world - automotive Computational thinking Solutions to real world problems
Cycle 3	W/C 12/04	W/C 19/04	W/C 26/04	W/C 03/05	W/C 10/05	W/C 17/05	W/C 25/05	W/C 07/06	W/C 14/06	W/C 21/06	W/C 28/06	W/C 05/07	W/C 12/07
	Programming Syntax Programming Errors in code	Reinduction Programming PRIMM introduction Programming Chatbot extended	Programming Driver / navigator For loops Programming Driver / navigator	Programming selection Programming sequence Messy marking	Programming iteration Programming Scratch iteration	Programming Python iteration assessment Programming Independent programming.	Programming Iteration in turtle assessment Programming Independent programming.	Programming Iteration in turtle assessment Programming Independent programming.	Hardware and software Input Devices Hardware and software Purpose of hardware	Hardware and software List devices needed to create a PC Hardware and software Output devices	Hardware and software Storage devices Messy marking Hardware and software Recommend hardware for given scenarios	Review Cycle 1,2,3 Assessment Cycle 1,2,3	Hardware and software Purpose of Hard drive, SSD, Flash Hardware and software Role of the CPU in a computer system

Year 8 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 24/08	W/C 31/08	W/C 07/09	W/C 14/09	W/C 21/09	W/C 28/09	W/C 05/10	W/C 12/10	W/C 02/11	W/C 09/11	W/C 16/11	W/C 23/11	W/C 30/11
	Term 1	School closed 31/08 and 1/09							Term 2	Data/Planning Day 12/13	Y8 Oxford Expedition		
	Induction Y7 25/08 All 26/08	E-safety My media consumption	E-safety A creator's responsibilities	E-safety Safe online talk	E-safety Which me should I be?	E-safety Gender stereotypes online	E-safety Review Trillion-dollar footprint	Revision E-safety Identifying high-quality sites	Reinduction E-safety The reality of digital drama	Review E-safety Cyberbullying: crossing the line	E-safety Animation creation	E-safety Animation creation	E-safety Animation review and feedback
Cycle 2	W/C 07/12	W/C 14/12	W/C 04/01	W/C 11/01	W/C 18/01	W/C 25/01	W/C 01/02	W/C 08/02	W/C 22/02	W/C 01/03	W/C 08/03	W/C 15/03	W/C 22/03
			Term 3				Assessment	Assessment	Term 4 Data Input 1	Data/Planning Day 4/5	Y7 Ullswater Expedition		
	Hardware and software Introduction to the computer (IPO)	Hardware and software Inside the computer	Reinduction Hardware and software Peripherals and components	Hardware and software Software (Open source and Proprietary)	Hardware and software The OS + functions	Hardware and software Securing the OS (Threats)	Revision Hardware and software The need for storage and storage types	Hardware and software	Review Hardware and software how computers communicate	Hardware and software Hardware for building a PC	Hardware and software Primary and secondary storage	Hardware and software Technical specifications	Hardware and software Review – and assessment
Cycle 3	W/C 29/03	W/C 19/04	W/C 26/04	W/C 03/05	W/C 10/05	W/C 17/05	W/C 25/05	W/C 07/06	W/C 14/06	W/C 21/06	W/C 28/06	W/C 05/07	W/C 12/07
		Term 5		School closed 1/05				Term 6 Assessment	Assessment	Data Input 2	Y9 DoFE Expedition		Data Day 15/07
	Programming Introduction to programming and PRIMM recap	Programming Scratch programming	Programming algorithm analysis	Programming Python programming	Programming Sorting algorithms: Insertion	Programming Sorting algorithms: bubble	Programming Sorting algorithms: merge	Programming Searching algorithms: binary	Programming Searching algorithms: linear	Programming Logic gates	Programming Boolean logic	Review Hardware and software	Review Hardware and software

Year 9 Long Term Plan (BTEC)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
	W/C 24/08	W/C 31/08	W/C 07/09	W/C 14/09	W/C 21/09	W/C 28/09	W/C 05/10	W/C 12/10	W/C 02/11	W/C 09/11	W/C 16/11	W/C 23/11	W/C 30/11
Cycle 1	<p>Induction Y7 25/08 All 26/08 Student Induction Creation of folders for all units</p>	<p>Baseline Student Induction Course overview and expectations Unit 1: Exploring media products Audience (age, gender and ethnicity)</p>	<p>Unit 1: Exploring media products Media consumption purposes Unit 1: Exploring media products Purpose and audience</p>	<p>Unit 1: Exploring media products media for varying purposes – combatting loneliness Unit 1: Exploring media products How media has transformed over the years</p>	<p>Unit 1: Exploring media products Genre and genre comparisons Unit 1: Exploring media products Learning Aim A practice</p>	<p>Unit 1: Exploring media products Learning Aim A practice Unit 1: Exploring media products Learning Aim A practice</p>	<p>Unit 1: Exploring media products Learning Aim A practice – hand in Review Feedback and improvements</p>	<p>Unit 1: Exploring media products Practice assignment hand-out Unit 1: Exploring media products Practice assignment</p>	<p>Reinduction Unit 1: Exploring media products Assignment Unit 1: Exploring media products Practice assignment</p>	<p>Unit 1: Learning aim B Practice assignment Unit 1: Exploring media products Practice assignment</p>	<p>Unit 1: Exploring media products Practice assignment Unit 1: Exploring media products Practice assignment</p>	<p>Unit 1: Exploring media products Practice assignment Unit 1: Exploring media products Practice assignment</p>	<p>Unit 1: Exploring media products Practice assignment Unit 1: Exploring media products Practice assignment</p>
	W/C 07/12	W/C 14/12	W/C 04/01	W/C 11/01	W/C 18/01	W/C 25/01	W/C 01/02	W/C 08/02	W/C 22/02	W/C 01/03	W/C 08/03	W/C 15/03	W/C 22/03
Cycle 2	<p>Unit 1: Exploring media products Learning aim B – audio Unit 1: Exploring media products – creating meaning</p>	<p>Unit 1: Exploring media products –audio key terms and definitions Unit 1: Exploring media products – apply stylistic codes to products</p>	<p>Reinduction Unit 1: Exploring media products -audio fact sheet Unit 1: Exploring media products – key terms and definitions</p>	<p>Unit 1: Exploring media products audio / moving image assignment Unit 1: Exploring media products – apply stylistic codes to publishing</p>	<p>Unit 1: Exploring media products analyse stylistic codes of publishing Unit 1: Exploring media products Plan and write publishing assessment</p>	<p>Unit 1: Exploring media products Stylistic codes in interactive products Unit 1: Exploring media products Observe stylistic codes in interactive products</p>	<p>Unit 1: Exploring media products Analyse websites Unit 1: Exploring media products Analyze apps using the information sheet</p>	<p>Unit 1: Exploring media products Observe stylistic codes in interactive assignment</p>	<p>Unit 1: Exploring media products Learning Aim B assignment hand-out Unit 1: Exploring media products Learning Aim B assignment hand-out</p>	<p>Unit 1: Exploring media products Learning Aim B assignment hand-out Unit 1: Exploring media products Learning Aim B assignment hand-out</p>	<p>Unit 1: Exploring media products Learning Aim B assignment hand-out Unit 1: Exploring media products Learning Aim B assignment hand-out</p>	<p>Unit 1: Exploring media products Learning Aim B assignment hand-in Unit 1: Exploring media products Learning Aim B assignment feedback</p>	<p>Unit 1: Exploring media products Learning Aim A assignment review Unit 1: Exploring media products Learning Aim B assignment review</p>
	W/C 29/03	W/C 19/04	W/C 26/04	W/C 03/05	W/C 10/05	W/C 17/05	W/C 25/05	W/C 07/06	W/C 14/06	W/C 21/06	W/C 28/06	W/C 05/07	W/C 12/07
Cycle 3	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>2.5 Programming languages and IDEs Tools and facilities of an IDE</p>	<p>Unit 3: Create a Media Product in Response to a brief Skills development</p>	<p>Unit 3: Create a Media Product in Response to a brief Skills development</p>	<p>Unit 3: Create a Media Product in Response to a brief Skills development</p>	<p>Unit 3: Create a Media Product in Response to a brief Skills development</p>
	W/C 29/03	W/C 19/04	W/C 26/04	W/C 03/05	W/C 10/05	W/C 17/05	W/C 25/05	W/C 07/06	W/C 14/06	W/C 21/06	W/C 28/06	W/C 05/07	W/C 12/07
	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Unit 2: Developing Digital Media Production skills</p>	<p>Assessment Cycle 1, Cycle 2 & Cycle 3 content</p>	<p>Unit 3 Skills development</p>	<p>Unit 3 Skills development</p>	<p>Unit 3 Skills development</p>	<p>Unit 3 Skills development</p>

Year 9 Long Term Plan (GCSE)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 24/08	W/C 31/08	W/C 07/09	W/C 14/09	W/C 21/09	W/C 28/09	W/C 05/10	W/C 12/10	W/C 02/11	W/C 09/11	W/C 16/11	W/C 23/11	W/C 30/11
	Student Induction Creation of folders for all units Student Induction Demonstration of Cornell notes taking method and online resources	1.1 Systems Architecture Fetch-execute cycle 1.1 Systems Architecture CPU Components ALU, cache, registers, CU	1.1 Systems Architecture Von Neumann architecture (MAR, MDR, PC and ACC) 1.1 Systems Architecture Common characteristics (cache, clock, cores)	1.1 Systems Architecture Embedded systems 1.2 Memory and Storage Primary and secondary storage	1.2 Memory and Storage data capacity calculations and storage units 1.2 Memory and Storage Binary conversions, additions and shifts	1.2 Memory and Storage Binary: characters, images and sound 1.3 Computer networks Types of network (LAN and WAN)	1.2 Memory and Storage Compression: lossy and lossless 1.3 Computer networks Types of network (LAN and WAN)	Revision 1.1, 1.2 and Year8 content Assessment Cumulative of yr7, yr8 and cycle 1 yr9	1.3 Computer networks, connections and protocols Network hardware and the role of client/server/peer networks	1.3 Computer networks, connections and protocols Encryption 1.4 Network Security Protocols and layers	1.4 Network Security Forms of attack (first 3 in the spec) 1.4 Network Security Forms of attack (next 3 in the spec)	1.4 Network Security Prevention methods (first 4 in the spec) 1.4 Network Security Prevention methods (last 3 in the spec)	1.4 Network Security Offer guidance to users of the network from the perspective of network administrator Review 1.1, 1.2, 1.3 and 1.4
Cycle 2	W/C 07/12	W/C 14/12	W/C 04/01	W/C 11/01	W/C 18/01	W/C 25/01	W/C 01/02	W/C 08/02	W/C 22/02	W/C 01/03	W/C 08/03	W/C 15/03	W/C 22/03
	1.5 Systems Software Operating Systems 1.5 Systems Software Functions of an OS	1.5 Systems Software Utility software - purpose 1.5 Systems Software Encryption software	1.5 Systems Software Defragmentation Review 1.4 – 1.5	1.6 Ethical, legal, cultural and environmental impacts of digital technology Impacts of digital technology	1.6 Ethical, legal, cultural and environmental impacts of digital technology Legal impact and legislation	1.6 Ethical, legal, cultural and environmental impacts of digital technology Environmental Review 1.1 – 1.4	Revision 1.5 and 1.6 Assessment Cycle 1 & Cycle 2 content	2.1 Algorithms Abstraction, decomposition and algorithmic thinking 2.1 Algorithms input, processes and outputs for a problem	2.1 Algorithms Pseudocode and flowcharts 2.1 Algorithms Searching algorithms	2.1 Algorithms Sorting algorithms 2.2 Programming fundamentals String manipulation	2.2 Programming fundamentals File handling operations 2.2 Programming fundamentals Data types	2.2 Programming fundamentals sequence, selection and iteration 2.2 Programming fundamentals functions and procedures	2.3 Producing robust programs Defensive design considerations 2.3 Producing robust programs input validation
Cycle 3	W/C 12/04	W/C 19/04	W/C 26/04	W/C 03/05	W/C 10/05	W/C 17/05	W/C 25/05	W/C 07/06	W/C 14/06	W/C 21/06	W/C 28/06	W/C 05/07	W/C 12/07
	2.3 Producing robust programs Maintainability 2.3 Producing robust programs Testing:	2.3 Producing robust programs Selecting and using suitable data Review 2.1 – 2.3	2.4 Boolean Logic Logic gates AND/OR/NOT 2.4 Boolean Logic Logic gates AND/OR/NOT	2.4 Boolean Logic Truth tables 2.4 Boolean Logic Combining gates	2.4 Boolean Logic Editing logic diagrams Review 1.1	2.5 Programming languages and IDEs High level languages 2.5 Programming languages and IDEs Low level languages	2.5 Programming languages and IDEs Translators 2.5 Programming languages and IDEs Compiler and interpreter	2.5 Programming languages and IDEs IDE tools and techniques Assessment Cycle 1, Cycle 2 & Cycle 3 content	Exam practice Exploding 2 mark exam questions. Exam practice Exploding 4 mark exam question	Exam practice Exploding 5 mark exam questions Exam practice Exploding 6 mark exam questions	Exam practice Exploding 8/9 mark exam questions Exam practice Exploding 8/9 mark exam questions	Craig n Dave Gap closing using online resources and tailored questioning Gap closing	Exam paper practice Full exam paper in test conditions Marking assessment