

All Hallows RC High School

Believe. Belong. Achieve.



COMPUTING AND IT CURRICULUM OVERVIEW

Mrs D Grannell

September 2026



Mission Statement

Believe. Belong. Achieve.

At All Hallows RC High School, we are a Christ-centred community committed to living out the Gospel values in every aspect of our school life. Our school mission is to inspire, support and challenge every member of our school. We **believe** that every person is created in the image of God and that they grow in faith guided by the teachings of Christ. We strive to foster an environment where love, peace, courage, justice and kindness guide our actions so we develop into compassionate, resilient individuals who contribute positively to the world around them.

We are a community built on love, demonstrating unconditional respect and kindness for all. By fostering strong relationships, we ensure that every individual feels that they **belong**, are valued, supported and accepted as part of our family. We celebrate our differences and each person's uniqueness. We encourage forgiveness and understanding to create an environment where every pupil can flourish in their own way.

Through these values, All Hallows RC High School nurtures the whole person spiritually, academically and socially so they can **achieve**. We are a school where the Gospel values are not just ideals but the foundation of everything we do. With Christ at the centre, we enrich the lives of our pupils and guide them on the path of faith, purpose and integrity.



Curriculum Intent

At All Hallows IT Department, our vision is to create a culture of challenge and enquiry embedded throughout computing and IT. For pupils to develop skills to engage with theoretical concepts, they independently apply knowledge in a range of regular and meaningful practical settings showing resilience and enthusiasm.

- We aim to create engaging lessons that promote teaching for understanding of computational thinking rather than covering fragmented content.
- We aim to teach the pupils the KS3 National curriculum and use a logical order of objectives providing insights into both natural and artificial systems
- We aim to group topics so they are in a sequenced and logical order; a spiral idea where topics have a natural progression in order of increasing difficulty and understanding.
- We aim to have a bigger focus on digital literacy in each topic so pupils are able to use IT as active participants in a digital world both within IT and also other school subjects.
- We aim for pupils to be able to use, express themselves and develop ideas at a level suitable for the future workplace.

KS3 Computing and IT - Year 7

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme	Introduction to digital media	Networks and the internet	Introduction to programming	Modelling data	Programming essentials	Using media
Skill	Keyboard & mouse Google classroom Search terms Design features	Web browsing Online information retrieval. Data presentation	Algorithm thinking Coding & debugging Problem solving Data handling	Data manipulation Data organisation Date visualisation Formatting data Data presentation	Decomposition Algorithmic thinking Data management Debugging Problem solving	Creating online content Sourcing media Evaluating reliability of online data Digital citizenship
CST	Dignity Peace Solidarity The common good	The common good Solidarity Peace	Dignity of work and participation Dignity	The common good Options for the poor Dignity	Dignity of work and participation Dignity	Solidarity Option for the poor The common good Peace Dignity
NC	3.8 3.9	3.5	3.2 3.3 3.4 3.8	3.1 3.7	3.2 3.3 3.4 3.8	3.7 3.8

KS3 Computing and IT - Year 8

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme	Media and graphics	Computing systems	Developing for the web	Representations	App development	Intro to python programming
Skill	Use vector graphics software Create and manipulate basic shapes Work with objects and paths Design practical graphical outcomes	Identify hardware Identify and classify software Observe and trace how hardware interacts Evaluate computing components	Create webpages using HTML Style webpages with CSS Build a website Evaluate online information	Encode and decode information Convert between number bases Measure digital information size Apply binary representation to text and numbers	Design and develop mobile applicationsImplement user interfaces Apply event driven programming Debugging and problem solving	Write and execute text-based coding Apply fundamental programming constructs Implement programming logic Debugging text based code
CST	Dignity The common good	Creation and environment The common good	The common good Solidarity Dignity Peace	Dignity The common good Peace	Dignity The dignity of work and participation Solidarity Option for the poor	The dignity of work and participation The common good
NC	3.7 3.8	3.4 3.5 3.6	3.8	3.6	3.1 3.2 3.3 3.8	3.1 3.2 3.3 3.6

KS3 Computing and IT - Year 9

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme	Python Programming	Using digital media	Interactive digital media	Data science	Cyber security	Digital forensics
Skill	Manipulate strings and lists Use iteration Use selection Design, write and debug short python programs	Image editing Source and prepare digital assets Apply graphic design concepts Create planning documents for visual identity and digital graphics	Create pre-production documentation Repurpose multimedia content Design user interfaceTest and review	Collect, organise and clean data Visualise data to identify patterns Use data to identify patterns and trends Use data to investigate problems and inform decisions	Recognise cyber threats Assess personal data risks Implement cybersecurity protections Analyse cyberattack senarios	Identify digital footprints Investigate location data Analyse digital information Investigate metadata Identify digital threats
CST	The common good Dignity Options for the poor	Dignity Peace The common good	The common good Solidarity Dignity Peace	The common good options for the poor Dignity Peace	Dignity Peace The common good	Dignity Solidarity Options for the poor Peace
NC	3.1 3.2 3.3 3.6	3.7 3.8	3.73.8	3.7 3.8	3.9	3.7 3.9

KS3 Computing and IT - Year 10

	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
Topic	2	1/6	2	1/6	3	1/6	3	1/6	4	1/6	4	6
SOW	Block 1		Block 2		Block 3		Block 4		Block 5		Block 6	
Key skills	Key Knowledge Primitive data types. Variables & identifiers. Runtime errors. Digital computers & types. Binary representation & bit patterns. Data units: bit, nibble, byte. Overflow errors. Signed vs. unsigned integers & two's complement. Key Skills Declaring & assigning variables. Handling input & output. Debugging runtime errors. Translating between code & flowcharts. Converting binary & denary numbers. Performing binary addition. Calculating binary combinations.		Key Knowledge Logic gates: AND, NOT, OR. Code readability & maintainability principles. Two's complement ranges & precision loss. Logical vs. arithmetic binary shifts. Hexadecimal notation & usage. Character sets: ASCII & Unicode limitations. Key Skills String manipulation. Implementing selection & condition-controlled loops. Constructing truth tables. Representing algorithms in flowcharts & code. Converting signed denary & two's complement. Performing logical & arithmetic binary shifts. Converting between binary & hexadecimal. Deriving character codes in ASCII.		Key Knowledge Arrays & lists. Subprograms: procedures & functions. Parameters & return values. Separation of concerns. Stored program concept & von Neumann architecture. Fetch-decode-execute cycle. CPU performance factors: clock speed & pipelining. Address bus width & memory addressing. Secondary storage types & characteristics. Key Skills Manipulating lists & indexing. Count-controlled iteration. Creating procedures & functions. Diagramming CPU components. Calculating addressable memory locations. Selecting storage media. Calculating data storage requirements.		Key Knowledge Arrays & lists (1D & 2D). Input validation checks. Operating system role, processes & file management. CPU scheduling & paging algorithms. Peripherals & device drivers. User interfaces & authentication. Utility software types & purposes. Key Skills Formatting user output. Indexing, iterating & traversing 2D structures. Validating user input. Implementing linear search in 1D & 2D lists. Calculating hard drive block allocation. Selecting file access permissions & user rights. Selecting utility software tools.		Key Knowledge Merge sort algorithm. Authentication. Cyberattacks & security threats. Malware & anti-malware. Network security: firewalls & penetration testing. Social engineering tactics. Acceptable Use Policies (AUP). Data protection: encryption, backups & access control. Robust software & vulnerabilities. Key Skills Merging sorted lists. File handling (reading, writing & CSV parsing). 2D data structure manipulation. Creating flowcharts. Implementing authentication. Input validation.		Key Knowledge Network benefits, LAN vs WAN. Protocols & IP addresses. Bandwidth, latency & network speed. Wired transmission media. High-speed broadband delivery. Wireless connectivity technologies. Network topologies. Internet components. Key Skills Problem decomposition. Turtle graphics programming. Coordinate navigation & shape drawing. Constructing subprograms & control structures. Categorising tasks by network type. Constructing data transmission time expressions. Comparing wired vs wireless performance. Drawing & labelling topology diagrams. Matching internet components to functions.	
CST							Dignity Y10_04_P20 Y10_04_P22 Y10_04_P23		Solidarity Peace Y10_05_P25 Y10_05_25 Y10_05_P26 Y10_05_P27			

KS3 Computing and IT - Year 11

	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6
Topic	4	6	3/5	1/6	2	1/6	5	1/6	Revision	Revision	
SOW	Block 7		Block 8		Block 9		Block 10		Revision		
Key skills	Key Knowledge Programming constructs. Subprograms & parameters. Variable scope. Software design principles. Embedded systems & IoT. IoT considerations. Network routing & data transmission. TCP/IP stack, layers & protocols. Key Skills Constructing algorithms & code. Creating subprograms. Justifying variable usage. Using built-in libraries & string formatting. Data structure manipulation. Ordering protocol stacks.		Key KnowledgeError types. Searching & sorting algorithms. Environmental impacts & e-waste. High-level vs low-level languages. Instruction sets. Program translators: compilers & interpreters. Intellectual property & software licensing. Key Skills Tracing algorithms. Debugging code. Applying search & sort algorithms. Problem decomposition. File handling. Writing code using subprograms. Comparing algorithm efficiency. Selecting translation methods.		Key KnowledgeTest data categories. One-dimensional data structures. Bitmap image representation. Analogue vs. digital sound representation. Analogue-to-digital conversion. Data compression principles. Key Skills Designing test data & testing code. Manipulating 1D data structures. Tracing algorithms & debugging. Decomposing problems & designing subprograms. File handling & string manipulation. Executing search algorithms. Calculating image & sound file sizes. Converting data representations. Diagramming signal conversion. Selecting compression methods.		Key KnowledgeTwo-dimensional data structures. Subprograms & variable scope. Emerging technologies: AI, machine learning & robotics. Algorithmic bias & technology ethics. Digital footprints & personal data collection. Data privacy, ownership & identity theft. Data protection legislation. Key Skills Indexing, traversing & searching 2D data structures. Problem decomposition. Writing subprograms with parameters & return values. File handling & output formatting. Creating & translating flowcharts. Tracing algorithms & debugging. Implementing search & sort algorithms. Designing test data.		Revisit and revisit all content.		
CST			Dignity of work Y11_02_P11 Creation & environment Y11_02_P7 Y11_02_P8				Dignity Common Good Y11_04_P21 Y11_04_P19 Y11_04_P22 Y11_04_P20 Y11_04_P23 Option for poor Y11_04_P20				

**KS4 Order of Teaching
Creative iMedia**

Year	Term 1	Term 2	Term 3
10	RO94 Visual identity and digital graphics (Internal Assessment)	RO94 Visual identity and digital graphics (Internal Assessment)	RO94 Visual identity and digital graphics (Internal Assessment) - Until May 15th Unit R097: Interactive digital media (Internal Assessment)
11	Unit R097: Interactive digital media (Internal Assessment)	Unit R097: Interactive digital media (Internal Assessment) Until Early March RO93 Creative iMedia in the media industry (External Assessment)	RO93 Creative iMedia in the media industry (External Assessment)





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