

Computer Science Curriculum Map

	Intent	The curriculum is designed to allow students to have access to transferable knowledge through both Computer Science and Information Technology and to be digital creators capable of making informed choices about the systems and processes that drive technology. We strive to deliver Computer Science which is engaging and practical, encouraging critical thinking and creativity as well as developing computational thinking and problem-solving skills. Students should be able to work safely online with a clear understanding of procedures to follow if they do not feel safe. We aim for the students to leave St Monica's as educated digital citizens with the knowledge to thrive in an ever-changing digital world.						
KS2 National Curriculum	Term	7	8	9	10	11	KS5	Careers
Design, write and debug programs that accomplish specific goals	Autumn Term 1	Digital Literacy & E-Safety Password importance, staying safe on social media, being discerning users of internet, spreadsheet and presentation National Curriculum ref: 9	Digital Literacy Using PowerPoint Master Slide, MS Word, Publisher, more advanced Spreadsheet skills National Curriculum ref: 7	Digital Literacy More advanced spreadsheet, PowerPoint, Word, Adobe Fireworks, Web Design to undertake a creative project National Curriculum ref: 7	1.2 Memory and Storage	2.1 Algorithms	Holy Cross College: A-Level Computer Science. Entry Requirement General College entry requirements. Grade 4 or above in GCSE Maths. Loreto College: A-Level Computer Science. Entry Requirement General College entry requirements. Grade 4 or above in GCSE Maths.	 -Artificial intelligence and machine learning engineer. -Business analyst. -Chief information security officer. -Cloud computing engineer. -Cloud computing engineer. -Computer science professor. -Computer scientist or computer science researcher. -Data scientist. -Data base administrator. -Computer Programmer -Software Engineer
Use sequence, selection, and repetition in programs	Autumn Term 2	Data Representation Looking at converting Binary to Denary & back, what is ASCII National Curriculum ref: 6	Data Representation Images as binary, Binary Addition & Hexadecimal National Curriculum ref: 4	Data Representation Boolean and Logic Gates, Truth Tables National Curriculum ref: 4	2.4 Boolean Logic 1.1 Systems Architecture	2.2 Programming Fundamentals		
Use logical reasoning to explain how some simple algorithms	Spring Term 1	Graphics Using Paint.net software, Difference between bitmap and vector, audience National Curriculum ref: 8	Graphics Self-Image knowledge and use of graphics in wider world, undertake a creative project National Curriculum ref: 8 &9	Graphics Advanced Photoshop skills including layers, Copyright National Curriculum ref: 8	1.3 Computer Networks 1.4 Network Security	2.3 Producing Robust Programming		
work Select, use and combine a variety of software	Spring Term 2	What are Computers Peripherals, Inputs, Outputs, Software & Hardware National Curriculum ref: 5	Understanding Computers Memory, Storage Types, operating Systems, open source v Proprietary National Curriculum ref: 5	Cyber Security Malware, Hackers and Social Engineering National Curriculum ref: 9	1.5 Systems Software	Review of Topics		
Use search technologies effectively	Summer Term1	Algorithms decomposition and Abstraction National Curriculum ref: 1	Algorithms Flow Charts and used to create an App National Curriculum ref: 1	Algorithms 3 Searches programming techniques and Pseudo Code National Curriculum ref: 2	1.6 Ethics, Legal and Culture	Review of Topics		
Understand computer networks	Summer Term 2	Programming Block based using Scratch to learn programming sequences National Curriculum ref: 3	Programming Text-based programming moving from Small Basic National Curriculum ref: 3	Programming Creating programs in Python National Curriculum ref: 3	2.5 Programming Languages and IDEs			