

St. Mary's Catholic High School(2026-2027)										
COMPUTER SCIENCE YEAR 9 LONG TERM PLAN with CURRICULUM STANDARDS(Theory)										
YEAR 9	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	ALGORITHMS								MACHINES AND COMPUTATIONAL MODELLING	REVISION
	Introduction to algorithms	Interpreting and creating algorithms, Making use of programming constructs	Appropriate conventions, Purpose and output of an algorithm	Identify and correct errors in algorithms using trace tables	Bubble Sort	Merge Sort	Lenear Search	Binary Search, Fitness for purpose of algorithms	The input-process-output model and the range of computational models	Recap on Algorithms
YEAR 9	WEEK 11 - Dec 1 and 2rd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	NETWORKS					BINARY				
	Networks - Different types of networks	Network, different types of networks and usage models and Wired and wireless connectivity	Network data speeds, the role of and need for network protocols	Data transmission and the 4-layer TCP/IP model	Characteristics of network topologies and Different mobile communication standards	Data representation (numbers, text, sound, graphics) and program instructions in binary	Computers represent and manipulate numbers (unsigned integers, signed integers (sign and magnitude, two's complement))	Computers represent and manipulate numbers (unsigned integers, signed integers (sign and magnitude, two's complement))	Convert between binary and denary whole numbers (0-255)	Convert between binary and denary whole numbers (0-255)
YEAR 9	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	WEEK 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	BINARY					DATA REPRESENTATION			HARDWARE	
	Recap on Networks	Binary arithmetic and the concept of overflow	Hexadecimal notation and to convert between hexadecimal and binary	Computers encode characters using ASCII and Unicode	Bitmap images are represented in binary (pixels, resolution, colour depth)	Recap on Binary	How sound, an analogue signal, is represented in binary	The limitations of binary representation of data	The function of the hardware components of a computer system and how they work together	The function of different types of memory
COMPUTER SCIENCE YEAR 9 LONG TERM PLAN with CURRICULUM STANDARDS(Practical)										
YEAR 9	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	ALGORITHMS						DEVELOP CODE			REVISION
	Introduction to algorithms	Interpreting and creating algorithms	Making use of programming constructs and appropriate conventions	To code an algorithm in a high-level language	The choice of algorithm and data values that need to be manipulated	write programs in a high-level programming language	To improve readability and to explain how the code works	Interpret error messages	Interpret error messages and identify, locate and fix errors in a program	Recap on Algorithms and Develop code
YEAR 9	WEEK 11 - Dec 1 and 2rd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	DATA TYPES AND STRUCTURES			DEVELOP CODE		CONSTRUCTS				
	Data types (integer, real, Boolean, char, string)	Strings	Variables and Constants	Determine the strengths and weaknesses of a program	Determine the strengths and weaknesses of a program and suggest improvements	Structural components of a program - variable and type declarations	Structural components of a program - command sequences	Structural components of a program - command sequences, selection, iteration	Structural components of a program - command sequences, selection, iteration	Structural components of a program - data structures
YEAR 9	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	WEEK 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	CONSTRUCTS									
	Recap on Data types and structures	Structural components of a program - data structures, subprograms	Structural components of a program - data structures, subprograms	Sequencing, selection and iteration constructs	Sequencing, selection and iteration constructs	Recap on Constructs	EXTENTION ACTIVITIES and REVISION	EXTENTION ACTIVITIES and REVISION	EXTENTION ACTIVITIES and REVISION	EXTENTION ACTIVITIES and REVISION
COMPUTER SCIENCE YEAR 10 LONG TERM PLAN with CURRICULUM STANDARDS(Theory)										
YEAR 10	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	HARDWARE				DATA STORAGE AND COMPRESSION					
	The concept of a stored program and the role of components of the CPU in the fetch-decode execute cycle (the Von Neumann model)	The factors that affect the performance of the CPU	Data storage/'cloud' and other contemporary secondary storage	The need for embedded systems and their functions	To use and convert between binary and denary multiples	The need for data compression	The need for data compression and methods of compressing data	Lossless, run-length encoding (RLE) algorithm File storage - measured in bytes and be able to calculate file sizes	Lossless, run-length encoding (RLE) algorithm File storage - measured in bytes and be able to calculate file sizes	Recap on data storage and compression

YEAR 10	WEEK 11 - Dec 1 and 2nd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	ENCRYPTION			LOGIC		SOFTWARE			PROGRAMMING LANGUAGES	
	The need for data encryption	Encryption algorithms	Encryption algorithms	To construct and interpret truth tables for a given logic statement (AND, OR, NOT)	To produce logic statements for a given problem	Operating system and how it manages files, processes, hardware and the user interface	The purpose and functions of utility software	Software to simulate and model aspects of the real world, system software and application software	High-level and low-level programming languages and suitability for a particular task	Assembler, compiler and an interpreter and the advantages and disadvantages of each
YEAR 10	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	WEEK 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	REVISION	DECOMPOSITION AND ABSTRACTION			NETWORK SECURITY	REVISION	NETWORK SECURITY		THE INTERNET AND THE WORLD WIDE WEB	
	Recap on encryption, Logic and software	Analyse a problem, investigate requirements (inputs, outputs, processing, initialisation) and design solutions	Decompose a problem into smaller sub-problems, Uses of abstraction	Real-world examples	Importance of network security and appropriate validation and authentication techniques	Recap on decomposition and abstraction	Different forms of cyber attack	Identifying vulnerabilities,review of network,user policies and protect software systems from cyber attacks	Internet, WWW and components of the WWW	IP addressing,IPv4, IPv6, The role of components used to access the internet
COMPUTER SCIENCE YEAR 10 LONG TERM PLAN with CURRICULUM STANDARDS(Practical)										
YEAR 10	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	DATA TYPES AND STRUCTURES						DEVELOP CODE			REVISION
	Data structures (records, one-dimensional arrays)	Data structures (records, one-dimensional arrays)	Data structures (two-dimensional arrays)	Data structures (two-dimensional arrays)	Global and local variables when implementing subprograms	Global and local variables when implementing subprograms	Types of error in programs (logic, syntax, runtime)	Types of error in programs (logic, syntax, runtime)	To design and use test plans	Recap on Data types and structures
YEAR 10	WEEK 11 - Dec 1 and 2rd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	DEVELOP CODE									
	Test data (normal, boundary, erroneous)	Test data (normal, boundary, erroneous)and identify, locate and fix errors	Trace table	Trace table	Determine the strengths and weaknesses of a program and suggest improvements	Determine the strengths and weaknesses of a program and suggest improvements	Write or modify code using appropriate data types and data structures	Write or modify code using appropriate data types and data structures	Write or modify code to implement the suggested improvements.	Write or modify code to implement the suggested improvements.
YEAR 10	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	WEEK 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	REVISION	INPUT / OUTPUT			OPERATORS	REVISION	OPERATORS			
	Recap on develop code	Write code that accepts and responds user input	Validation	Write code that reads/writes from/to a text file	Arithmetic operators (add, subtract, divide, multiply, modulus, integer division)	Recap on develop code	Arithmetic operators (add, subtract, divide, multiply, modulus, integer division)	Relational operators (equal to, less than, greater than, not equal to, less than or equal to, greater than or equal to)	Relational operators (equal to, less than, greater than, not equal to, less than or equal to, greater than or equal to)	Logic operators (AND, OR, NOT)
COMPUTER SCIENCE YEAR 11 LONG TERM PLAN with CURRICULUM STANDARDS(Theory)										
YEAR 11	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	EMERGING TRENDS, ISSUES AND IMPACT									
	The environmental impact of technology (health, energy use, resources) on society	The environmental impact of technology (health, energy use, resources) on society	The ethical impact of using technology (privacy, inclusion, professionalism) on society	The ethical impact of using technology (privacy, inclusion, professionalism) on society	The legal impact of using technology (intellectual property, patents, licensing and cyber-security)	The legal impact of using technology (intellectual property, patents, licensing and cyber-security)	Current and emerging trends in computing technology (quantum computing)	Current and emerging trends in computing technology (quantum computing, DNA computing)	Current and emerging trends in computing technology (quantum computing, DNA computing, artificial intelligence (AI), nanotechnology)	Recap on Emerging trends, issues and impact
YEAR 11	WEEK 11 - Dec 1 and 2rd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	REVISION									
	Revision on Topic 1: Problem solving	Revision on Topic 1: Problem solving	Revision on Topic 3: Data	Revision on Topic 3: Data	Revision on Topic 4: Computers	Revision on Topic 4: Computers	Revision on Topic 5: Communication and the internet	Revision on Topic 5: Communication and the internet	Revision on Topic 6: The bigger picture	Revision on Topic 6: The bigger picture
YEAR 11	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	WEEK 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	EXAM SKILLS	REVISION AND EXAMINATION								
	Past Paper Discussion and Exam Skills	Revision, Mock Examination and Board Examination								

COMPUTER SCIENCE YEAR 11 LONG TERM PLAN with CURRICULUM STANDARDS(Practical)										
YEAR 11	WEEK 1 - Aug last week and Sept 1st Week	WEEK 2 - Sep 2nd Week	WEEK 3 - Sep 3rd Week	WEEK 4 - Sep 4th Week	WEEK 5 - Sep 5th Week and Oct 1st Week	WEEK 6 - Oct 2nd Week	WEEK 7 - Oct 4th Week	WEEK 8 - Oct 5th Week	WEEK 9 - Oct 5th Week	WEEK 10 - Nov 2nd Week
Term 1	SUBPROGRAMS									
	Benefits of using subprograms	Write code that uses user-written and pre-existing (built-in, library) subprograms	Write code that uses user-written and pre-existing (built-in, library) subprograms	Write code that uses user-written and pre-existing (built-in, library) subprograms	Passing data into and out of subprograms (procedures, functions)	Passing data into and out of subprograms (procedures, functions)	Create subprograms that use parameters	Create subprograms that use parameters	Create subprograms that use parameters	Recap on Subprograms
YEAR 11	WEEK 11 - Dec 1 and 2rd Week	WEEK 12 - Jan 1st Week	WEEK 13 - Jan 2nd Week	WEEK 14 - Jan 3rd Week	WEEK 15 - Jan 4th Week	WEEK 16 - Feb 1st Week	WEEK 17 - Feb 2nd Week	WEEK 18 - Feb 3rd Week	WEEK 19 - Feb 4th Week	WEEK 20 - March 1st Week
Term 2	REVISION									
	Revision on Topic 2: Programming (2.1 Develop code)	Revision on Topic 2: Programming (2.1 Develop code)	Revision on Topic 2: Programming (2.2 Constructs)	Revision on Topic 2: Programming (2.2 Constructs)	Revision on Topic 2: Programming (2.3 Data types and structures and 2.4 Input/output)	Revision on Topic 2: Programming (2.3 Data types and structures and 2.4 Input/output)	Revision on Topic 2: Programming (2.5 Operators and 2.6 Subprograms)	Revision on Topic 2: Programming (2.5 Operators and 2.6 Subprograms)	REVISION - PAST PAPERS/SAMPLE PAPER	REVISION - PAST PAPERS/SAMPLE PAPER
YEAR 11	WEEK 21 - March 3rd Week	WEEK 22 - March 4th and 5th and April 1st Week	WEEK 23 - April 3rd Week	WEEK 24 - April 4th Week	WEEK 25 - April 5th Week	WEEK 26 - May 1st Week	Week 27 - June 1st Week	WEEK 28 - June 3rd Week	WEEK 29 -June 3rd Week	WEEK 30 - June 4th Week
Term 2	REVISION AND EXAMINATION									
	Past Paper Discussion and Exam Skills	Revision, Mock Examination and Board Examination								