

Curriculum Content Map			Subject: Y11 Computer Science											
		Month	Term 1					Term 2					Term 3	
			September	October	November	December	January	February	March	April	May	June	July	
	Units of Work		Component 01 - Computer Systems							Compoent 02 - Computational Thinking, Algorithms and Programming				
Cultural Transmission	Specification Area		Section One	Section Two	Section Three	Section Four	Section Five	Section Six	Section Six	Unit 3 LA-B	Section Seven	Unit 3 LA-C	Unit 3 LA-C	
	Substantive knowledge	<i>The What!</i>	Computer Systems; The CPU, Memory, CPU & System Performance, Secondary Storage, Systems Software - The OS, System Software - The Utilities	Data Represnetation; Binary Numbers; Hexadecimal Numbers; Characters; Storing Images; Storing Sound; Compression	Opensource and Proprietary Software; Computational Thinking; Writing Algorithms Pseudocode; Writing Algorithms - Flowcharts; Search Algorithms; Sorting Algorithms	Networks - LAN and WANS; Networks - Hardware; Wireless Networks; Cleint-sercer and Peer-to-Peer Networks; Network Topologies; Network Protocols; Network -	The internet; Network Security Threats; Ethical & Cultural Issues; Enviromental Issues, Computer Legislation, Programming Basics- Data Types; Programming Basics - Casting and Operators.	Programming Basics - Operators; Constants and Variables; Strings; Program Flow; Boolean Logic; Random Number Generation; Arrays; Assignment (internally assessed) handout	File Handling; Storing Data; Searching Data; Sub Program, Defensive design; Testing; Trace Tables; Translators; Integrated Development Environments Structured Programming;	Assignment submission - internally assessed - Summary and Revision Classes	Revision Classes	EXAM DATES 14th May (Computer Systems) and 21st May (Computational Thinking, Algorithms & Programming)		
	Disciplinary knowledge	<i>The How!</i>	Students will effectively listen to new content, using this instruction to understand how hardware and software work in a computer system	Students will understand how binary numbersl characters work and how they are used in basic computer software architecture	Students will create databases using suitable validation techniques.	Students will learn about common security threats and develop an understanding of ethical and cultral issues.	Students will revise for the exam, recapping on key concepts which were not clearly evidenced in the AP1 mock.	Students will review the social media presence of different companies for effectiveness	Students will examine how programming elemetns are improtant basic programming concept design	Structured Programming; Defensive design; Testing; Trace Tables; Translators; Integrated Development Environments; Revision Students will complete their LA-B Assignment.	Students will be introduced to programming basics and explore elements of structured programming	Students will complete their LA-C Assignment.	Students will re-draft their LA-C Assignment.	
	Sequencing (Flow)	<i>Retrieval & Extension</i>	<u>Builds Upon</u> This unit builds upon the KS3 databases work completed by these students. <u>Developed further in</u> Students will create queries and reports on databases when studying LA-B.	<u>Builds Upon</u> LA-A teaches students to understand how data works and is used <u>Developed further in</u> LA-C teaches students how to create database validation.	<u>Builds Upon</u> LA-A teaches students how to build databases without validation. <u>Developed further in</u> LA-D teaches students how to test and evaluate databases.	<u>Builds Upon</u> LA-A to LA-C teaches students how to design and create databases. <u>Developed further in</u> All key skills are covered in the revision lessons in January.	<u>Builds Upon</u> This unit builds upon the KS3 databases work completed by these students. <u>Developed further in</u> This unit feeds into the synoptic assessment (Unit 1)	<u>Builds Upon</u> Students have experience of using social media for personal use, but most will not have experience utilising it for business use. <u>Developed further in</u> Students will use this understanding to plan social media in LA-B.	<u>Builds Upon</u> Students learn about key social media techniques for business in LA-A <u>Developed further in</u> Students will utilise planning techniques in their LA-B assignment.	<u>Builds Upon</u> Students learn the key planning skills for LA-B in March. <u>Developed further in</u> Students will apply these techniques in LA-C.	<u>Builds Upon</u> Students learn about the key social media skills in LA-A and plan the use of these in LA-B. <u>Developed further in</u> Students apply these skills in their LA-C assignment.	<u>Builds Upon</u> Students learn how to apply the social media techniques in May, with the planning for these carried out in LA-B. <u>Developed further in</u> This unit feeds into the synoptic assessment (Unit 1).		
	Summative Assessment			In class assessment and deep mark	In class assessment and deep mark	AP1 mock - full past paper.		AP2 mock - full past paper		LA-A Assignment		LA-B Assignment		LA-C Assignment
Personal Empowerment	Virtue	<i>The opportunity to reflect, think deeply and critically about an issue.</i>	Friendliness & Civility	Justice & Truthfulness	Courage	Generosity	Gratitude	Good Speech	Good Temper & Humour	Self-Mastery		Compassion	Good Sense	
	Link to Virtue		Database relationships will be explored drawing parallels with personal relationships (e.g. one husband, one wife...)	Students will use database queries and reports to return truthful information.	Students will demonstrate the courage to persevere when developing complex validation.	Students will demonstrate generosity in correcting issues identified during testing and evaluation.	Students will demonstrate gratitude for the time to prepare for their examination.	Students will demonstrate good speech as they provide feedback about existing social media channels.	Students will demonstrate good temper as they plan social media posts.	Students will evidence self-mastery as they redraft their LA-B Assignments.		Students will demonstrate compassion by providing feedback about the effectiveness of a social media feed.	Students will demonstrate good sense as they redraft their coursework.	
Preparation for Work	Skill	<i>Transferable skills</i>	Listening	Leadership	Problem-Solving	Creativity	Staying Positive	Speaking	Staying Positive	Aiming High		Speaking	Teamwork	
	Link to Skill		Students will effectively listen to new content, using this instruction to build new databases.	Students will show initiative and leadership to return the correct information.	Students will demonstrate problem solving skills to identify appropriate validation.	Students will demonstrate creativity by identifying suitable tests for a database.	Students will stay positive in preparing for examination.	Students will demonstrate good speech as they provide feedback about existing social media channels.	Students will stay positive as they receive feedback to refine their social media plans.	Students will aim high by completing all work to a Distinction level.		Students will provide effective verbal feedback about the quality of social media posts.	Students will demonstrate teamwork by helping each other to understand assessment objectives.	
Preparation for Citizenship	SMSC & British Values	<i>Developing opinions on current issues</i>	BV - Rule of law	SMSC - Cultural	BV - Mutual Respect	BV- Mutual Respect	BV - Democracy	SMSC - Cultural	BV - Tolerance SMSC - Moral		SMSC - Social			
	Link to SMSC & British Values		Data Protection Act provides a right for details to be updated. Updating information is a key advantage of normalisation.	Students will gain an understanding of how their information is used by companies to contact them.	Validation increases the likelihood that data entered is correct.	Testing maximises the probability of the system working as planned.	The lessons will be based on the needs of students, with student input for topics to be covered.	Students explore the cultural impact of social media.	The British Value of Tolerance is covered by social media policy, ensuring that everyone is treated with respect. Morality is also covered in terms of behaviour of firms using social media.		Students apply their skills of social media to create a social media channel.			

British Values
Democracy
Rule of Law
Individual Liberty
Mutual Respect
Tolerance

SMSC
Spiritual
Moral
Social
Cultural