Buckingham School Curriculum Map

Computer Science

		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
KEY TOPIC/VALUE							
YEAR 7	CONTENT	Cat Tests Digital Literacy	Computer Systems	Programming Fundamentals	Planning Programming with Basic JavaScript	Photo editing	E-Safety Media Campaign
	SKILLS	Basic usage of a computer and the skills to conduct yourself online in a safe manner	Cooperative learning, research skills, presentation skills	Computational Thinking Skills (abstraction, decomposition) and the building blocks of coding	Cooperative Learning, Designing programs, basic scripting, debugging written programs	Cooperative Learning, Image editing	Organizational skills, presentations, oral speaking, graphic designs
	THEMES	What do we need to do to keep ourselves safe?	How does a computer actually work?	Block based problem solving	How are text-based programs created?	How are images manipulated?	How do we teach others to keep themselves safe online?

YEAR 8	CONTENT	Computer networks and the internet	Environmental and ethical issues in computing	Number Systems (Binary)	Data representation	Animations in JavaScript	Game making
	SKILLS	Cooperative Learning, research, building presentations, analyzing situations	Research, critical thinking, presentation skills	Converting between number systems, adding binary	Graphing, research, cooperative learning	Planning projects, creative designs, debugging and variables	Planning and communication skills, advanced coding
	THEMES	How is data transferred?	How does technology affect us?	How does the computer read **everything?**	How does a computer communicate with us?	How do we get our code to move?	How can we combine everything to build an interactive game?
YEAR 9	CONTENT	Searching and Sorting Algorithms	Introduction to Python	Logic Circuits and careers in computing	Microbit Game Design and Robotics Unit	Advanced e-safety	
	SKILLS	Cooperative Learning, research, analyzing algorithms	Input, Output, Loops, Arrays and Selection statements	Boolean Algebra, research and presentation skills	Designing and testing games, hardware, testing	Critical thinking, presentations, research	
	THEMES	What's the best way to find and sort information?	What programming skills can we transfer?	How does a circuit actually work? Where can computing take you?	How can we use hardware to build handheld games?	What is the relationship between technology and me?	

		Paper 1	Paper 1	Paper 1	Paper 1	Paper 2	Paper 2
YEAR 10 GCSE OCR SPECIFICATION	CONTENT	1.1 – Systems architecture 1.2 – Memory and storage	1.2 – Memory and storage	1.3 – Computer networks, connections and protocols 1.4 – Network security	1.5 – Systems software 1.6 – Ethical, legal, cultural and environmental impacts of digital technology	Programming Theory 2.1 – Algorithms	Programming Basics 2.2 – Programming fundamentals
	SKILLS	• GCSE exam questions, Independent learning, Time management and organization skills • •	• GCSE exam questions, Independent learning, Time management and organization skills	• GCSE exam questions, Independent learning, Time management and organization skills	• GCSE exam questions, Independent learning, Time management and organization skills	• GCSE exam questions, Independent learning, Time management and organization skills Analyzing and building programs	• GCSE exam questions, Independent learning, Time management and organization skills Analyzing and building programs, basic python skills
	THEMES	How the computer is set up and the components that run it.	How the computer is set up and the components that run it.	How computers are connected and communicate.	The software that keeps a computer running and the impacts of	Basic theory for algorithms-building the foundation.	Basic programming skills

					technology on the world.		
YEAR 11 GCSE OCR SPECIFICATION	CONTENT	Paper 2 Programming Theory 2.1, 2.4 – Boolean logic 2.5 – Programming languages and Integrated Development Environments	Paper 2 Programming (Advanced) 2.3 – Producing robust programs 2.2 – Programming fundamentals	Paper 2 Programming Project	Revision	Revision	EXAMS
	SKILLS	• GCSE exam questions, Independent learning, Time management and organization skills	• GCSE exam questions, Independent learning, Time management and organization skills Analyzing and building programs, advanced python skills	• GCSE exam questions, Independent learning, Time management and organization skills Analyzing and building programs to	Revision Skills, exam technique	Revision Skills, exam technique	

				meet a specification			
	THEMES	The tools a programmer uses.	Advanced programming skills	Bringing it all together	Close the gaps	Close the gaps	