

GSA Curriculum Map 2021-22: ICT, Business and Computing

We aim to develop all students into successful and competent programmers who:

- have the desire to develop and apply their analytical, problem-solving, design, and computational thinking skills within programming and Computing as a whole.
- become digitally literate – able to use, and express themselves and develop their ideas through information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.
- understand the impacts of digital technology to the individual, wider society

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 10 - OCR - J277 - Paper 1 &amp; Programming in Python</b>						
<b>Subject</b>	<b>GCSE Computer Science</b>					
<b>Topics</b>	1.4 Network Security 2.2 Programming Fundamentals	1.2 Memory and storage 2.2 Programming Fundamentals	1.2 Data Representation 2.2 Programming Project	1.3 Communications & Networking 2.2 Programming Project	1.6 Ethics 1.5 Systems Software	1.1 Systems Architecture 2.2 Python Microbit Lessons
<b>Skills</b>	Computer Hardware Programming Debugging Algorithms Decomposition	Computer Hardware Programming Abstraction Decomposition	Mathematics Programming Problem Solving	Networking Programming Problem Solving	Computer Law & Ethics Literacy Software	Computer Hardware Programming Physical Computing Problem Solving
<b>Links</b>	<a href="#">1.4 Network Security</a>	1.2 <a href="#">Memory</a> and <a href="#">Storage</a>	<a href="#">1.2 Data Representation</a>	<a href="#">1.3 Networking</a>	<a href="#">1.6 Ethics</a> <a href="#">1.5 System Software</a>	<a href="#">1.1 Systems Architecture</a> <a href="#">2.2. Python Microbit</a>
<b>Cross Curricular Links</b>	Technology: NEA - Iterative design with problem solving and analytical thinking.			Science (Physics) Autumn 1 - Y11 Autumn Topic: Magnetism Space Link: Electromagnetics with focus on WiFi (data)  Science( Chemistry) Autumn 1 - Y10 Topic: Waves Electricity and Magnetism Link: conductivity of materials		
	NC: develop their capability, creativity and knowledge in computer science, digital media and information technology NC: develop and apply their analytic, problem-solving, design, and computational thinking skills and understand how changes in technology affect safety NC: understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns					

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 11 - OCR - J277 - Paper 2 &amp; Programming in Python</b>						
<b>Subject</b>	<b>GCSE Computer Science</b>					
<b>Topics</b>	2.4 Boolean Logic 2.2 Programming	2.3 Producing Robust programs 2.5 Programming Languages & Integrated Development Environments	2.1 Algorithms	2.2. Pseudocode (Programming Fundamentals)	Paper 1 & 2 Revision	Paper 1 & 2 Revision
<b>Skills</b>	Debugging Algorithms Decomposition	Abstraction Decomposition Problem Solving	Abstraction Decomposition Mathematics	Abstraction Problem Solving Mathematics	Abstraction Decomposition Problem Solving	
<b>Cross Curricular Links</b>	Technology; project: Iterative design skills Design Ventura					
<b>Links</b>	<a href="#">2.4 Boolean Logic</a>	<a href="#">2.3 Producing Robust Programs</a> <a href="#">2.5 IDE</a>	<a href="#">2.1 Algorithms</a>	<a href="#">2.2 Programming</a>		
	NC: develop their capability, creativity and knowledge in computer science, digital media and information technology and develop and apply their analytic, problem-solving, design, and computational thinking skills					