

Curriculum Map

Subject: KS3 Computer Science

Key Stage 3:		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Topic:	Introduction to Information Technology	Computational thinking	E Safety and Digital Literacy	Fundamentals of Computer hardware and software	Digital Numeracy - Spreadsheets	Kodu games design and end of year assessment
	Lessons	7.5	7	6	5	6	7
	Key skills and knowledge:	Use of school systems: Use of Google Classroom Use of email Logging into the computer system, Go4Schools login Collaborative working in googledocs Googledocskills Slides skills SOW	Acceptable usage policy Decomposition, Abstraction, Repetition and Algorithm Introduction SOW	My digital identity Personal vs private Passwords Online relationships and bullying Banter vs bullying Online Disinhibition effect Who are you talking to Phishing and scams Your digital footprint THINK before you post Fake news Health and wellbeing SOW & RSS	CPU, Memory, storage, peripherals, basic software, Operating Systems, System software.	Spreadsheet modelling Cell references Formatting Formulas Functions Vlookup Hlookup Conditional formatting Data validation	Introduction to programming environment Object orientated programming, Movement of different objects (controlled and automatic) Scoring system 2 player games Interaction with the environment
	IT component	Introduction to Word Processing, email, use of google classroom, messaging, managing passwords	Google Classroom skills Collaborative working skills Google Docs formatting skills	Google Classroom skills Collaborative working skills Google Docs formatting skills	Google Classroom skills Collaborative working skills Google Docs formatting skills	MS Excel skills Google Classroom skills Collaborative working skills Google Docs formatting skills	Programming Skills with KODU Google Classroom skills Collaborative working skills Google Docs formatting skills
	Assessment	Fast 5 at the start of every lesson To introduce new concepts and to revisit previous work. Class results will be viewed on the board and any class misconceptions will be addressed Formal assessment at the end of each half term via a variety of activities. Test papers and Rubric based creative assessment tasks.					

Year 8	Topic	E safety	Networks and the Internet	Use and Representation of Data	Programming basics in Python	Digital Literacy - Databases	Computational Thinking - Algorithms
	Lessons	7.5	7	6	5	6	7
	Key skills and knowledge:	Computer misuse, cyberbullying, sexting, grooming etc. SOW	Acceptable usage policy review, LAN, WAN, topologies, use, h/ware and s/ware, Packet switching, routing etc SOW	Data vs information Why use binary? Binary, hex, Denary and conversion between them, addition, overflow, Representing text, images and sound. Colour depth Data ethics and security Logic gates, half and full adder SOW & RSS	sequencing, selection and iteration, variables, Changing variables Constants How to display text and numbers Joining strings Data types If Statements While loops	What is a database? Flay file vs Relational Databases Table, Records, fields and primary keys Creating Databases Data types Form creation and use Query design and use Reports	What is an algorithm? How to write an algorithm (Representation) flowcharts, pseudocode, sequencing iteration and trace tables
	IT Component	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email
	Assessment	Fast 5 at the start of every lesson To introduce new concepts and to revisit previous work. Class results will be viewed on the board and any class misconceptions will be addressed Formal assessment at the end of each half term via a variety of activities. Test papers and Rubric based creative assessment tasks.					

Year 9	Topic:	E safety	Cyber security and forensic technology.	Programming with Python by example.	Environmental and ethical use of digital devices	Web development. HTML Modelling using computers	Term 6 - Digital Literacy - Monetising Digital Technology
	Lessons	7.5	7	6	5	6	7
	Key skills and knowledge:	cyberbullying, sexting, grooming II, body image and social media, terrorism & online extremism , fake news SOW	Social engineering, Viruses, Phishing, Hacking, Denial of service. Botnets etc. SOW	Revision of Term 4 Year 8. (sequencing, selection and iteration, variables, Changing variables Constants How to display text and numbers Joining strings Data types If Statements While loops) Complex data structures, problem solving, Defensive design SOW & RSS	Ethics, the environment and privacy in the digital world. Cultural use eg social media and health	Basic Web page creation CSS Hyperlinks HTML coding Event driving and manipulation. What if analysis?	Introduction to Monetisation Advertising and Content creation E-Commerce and Direct Sales Subscription Models and In-App Purchases Emerging Technologies and Future Trends
	IT Component	Use of google classroom, messaging, managing passwords Google Docs creation Email	Acceptable usage policy review,	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email	Use of google classroom, messaging, managing passwords Google Docs creation Email
	Assessment	Fast 5 at the start of every lesson To introduce new concepts and to revisit previous work. Class results will be viewed on the board and any class misconceptions will be addressed Formal assessment at the end of each half term via a variety of activities. Test papers and Rubric based creative assessment tasks.					

Subject: Computer Science OCR (J277)		Exam board: OCR	Level: GCSE	Entry code:	Unit codes:		
Key Stage 4:	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Year 10	Unit(s):	Unit 1 - Systems Architecture	Unit 2 Data Representations	Unit 7 Programming	Unit 8 – Logic and Languages	Unit 8 – Logic and Languages (cont)	Unit 5 – The impact of digital Technology
	Lessons	Architecture of the CPU CPU Performance Memory Secondary storage Assessment	Units and Binary numbers Binary arithmetic and hexadecimal Character sets Images Sound Compression Assessment	Programming fundamentals Sequence and selection Iteration Arrays Procedures and functions Records and files Assessment	Translators and facilities IDEs	Logic Diagrams and truth tables Defensive design Errors and testing Assessment	Ethical and Cultural issues Environmental issues Legislation and privacy Assessment
	Key skills and knowledge:	Understand the components that make up digital systems, and how they communicate with one another and with other systems	Apply mathematical skills relevant to Computer Science.	think creatively, innovatively, analytically, logically and critically	Understand Translators and Compilers and Independent Development Environments	Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs	Understand the impacts of digital technology to the individual and to wider society
	Assessment	https://drive.google.com/drive/folders/16RMRqhA1QO6dWcHqu2d8bwCq7owWcUtB?usp=drive_link	https://drive.google.com/drive/folders/1byAd_OWwEF06wjQmS33JXynlqWL8WVf0?usp=drive_link	https://drive.google.com/drive/folders/1chcYM0eXNm6uR37qz2ax17Sl8oe42cCJ?usp=drive_link	See next term	https://drive.google.com/drive/folders/1ObsxdQh2JcQbKyK-i-VGDPn_ezPvqgAv?usp=drive_link	https://drive.google.com/drive/folders/1lpT5IKvMDAlckKFOUQI-sDaGUaKRswmh?usp=drive_link

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11	Unit(s):	Unit 3 - Networks	Unit 4 - Network Security and systems software	Unit 6 - Algorithms	Exam time Revision	Exam time REvision	
	Lessons	The internet and Wide Area Networks Local Area Networks Wireless networking Client - Server and P2P networks Standards, protocols and layers	Network Threats Understand forms of attack and threats posed to a network: Identify and understand the prevention of vulnerabilities Explain the need for the following functions of an operating system: Describe the purpose and functionality of common utility software Preventing vulnerabilities Operating systems Utility software	Computational thinking Searching Algorithms Sorting Algorithms Algorithms using flowcharts Algorithms using pseudocode Interpret, correct and complete algorithms	Based on analysis of assessment		
	Key skills and knowledge:	Understand the components that make up digital systems, and how they communicate with one another and with other systems	Understand the components that make up digital systems, and how they communicate with one another and with other systems	Understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation.	Revision techniques Exam techniques Subject Specific gaps in knowledge		
	Assessment	https://drive.google.com/drive/folders/1kPro_y1LYU5JIAOBuH1PT1xBUA77xZ?usp=drive_link	https://docs.google.com/document/d/1SKxtp6YBESelTbDgze-CHPo23On9_hav/edit?usp=drive_link&oid=118419993626887749195&rtpof=true&sd=true	https://drive.google.com/drive/folders/1wtBXSyXqNrozWQJKPNyN_fTXiND9vhri?usp=drive_link			

<p>End of course external assessment: Year 10 mock on topics covered so far from Paper 1&2 previous year (Unit 1, 2, 7 & 8) Year 11 Mock based on Component 1 and most of component 2</p>	<p>End of course external assessment: Paper 1- 1.1 Systems Architecture, 1.2 Memory and storage, 1.3 Computer Networks, 1.4 Network Security, 1.5 Systems Software, 1.6 Ethical, Legal cultural and environmental impacts of digital technology. 90 minutes, 80 marks, 50% of total GCSE</p> <p>Paper 2 – 2.1 Algorithms, 2.2 Programming fundamentals, 2.3 Producing robust programs, 2.4 Boolean logic, 2.5 Programming languages and Integrated Development Environments 90 minutes, 80 marks, 50% of total GCSE</p>
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