KS3 Overview

Computer Science & ICT 2023-2024

Years 7-9

Our <u>intention</u> is to provide a varied, challenging and engaging Computer Science & ICT curriculum, which ensures that our students of Computer Science & ICT will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- be able to evaluate and apply information technology, including new or unfamiliar technologies
- become responsible, competent, confident and creative users of information and communication technology

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Year 7 Programme of Study Overview
(1 hour per week)

1: Using Computers Safely, Effectively & Responsibly	2: Presenting Information for a specific audience & purpose	3: Understanding Computers: Introduction to CS	4: Games Programming with Scratch 3.0	5: Control Systems with Flowol 4.0

Week No	Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1	CS Baseline Assessment & Seating Plans Induction to school network & resources		**Lesson 6:** Assessment		**Lesson 1:** Input/Process/Output		**Lesson 7:** Assessment		Year 7 Assessment Preparation		**Lesson 1:** Flowcharts
2			Progress Booklets & Reflection		**Lesson 2:** The CPU	HWK	Progress Booklets & Reflection		**Year 7 Exams** (Online Assessment)		**Lesson 2:** Sequencing
3	**Lesson 1:** File Management		**Lesson 1:** Audience & purpose		**Lesson 3:** Binary		**Lesson 1:** Simple movement (sprites & coding)		**Lesson 4:** Randomisation (operators)		**Lesson 3:** Sensors
4	**Lesson 2:** Social networking	HWK	**Lesson 2:** Planning a multimedia presentation	HWK	**Lesson 4:** Binary Addition		**Lesson 2:** Lives & scoring (variables)	HWK	**Lesson 5:** Shooting & jumping		**Lesson 4:** Subroutines
5	**Lesson 3:** Keeping your data safe	HWK	**Lesson 3** Presenting information 1		**Lesson 5:** Storage Devices		**Lesson 3:** Adding a new level (broadcast scripts)		**Lesson 6:** Sound		**Lesson 5:** Actuators
6	**Lesson 4:** Using email		**Lesson 4:** Presenting information 2		**Lesson 6:** New Technologies				**Lesson 7:** Assessment	HWK	**Lesson 6:** Variables
7	**Lesson 5:** Searching the web		**Lesson 5:** Assessment						Progress Booklets: & Reflection		**Lesson 7:** Assessment & Progress Booklets

6 Homework tasks averaging 1 per half term
5 Assessment Points plus Year 7 Examination

Year 8 Programme of Study Overview
(1 hour per week)

1: Computational Thinking & Logic	2: Introduction to the BBC Micro:bit	3: Website Development: Adobe Dreamweaver	4: Introduction to Python Programming	5: Computer Crime

Week No		Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1		CS Baseline Assessment & Seating Plans		**Lesson 7:** Assessment		**Lesson 5:** Safe Lock System in Python	HWK	**Lesson 3:** Planning a Website	HWK	**Lesson 1:** Introduction to Python		**Lesson 1:** Scams
2		**Lesson 1:** Logical Thinking		Progress Booklets & Reflection		**Lesson 6:** Assessment & Progress Booklets		**Lesson 4a:** Developing a Website		**Lesson 2:** Numbers & Arithmetic	HWK	**Lesson 2:** Hacking
3	HWK	**Lesson 2:** Logic Gates		**Lesson 1:** Creating Your First Program	HWK	**Lesson 1:** HTML		**Lesson 4b:** Developing a Website		**Lesson 3:** Selection – IF statements		**Lesson 3:** Protecting Personal Data
4		**Lesson 3:** Algorithmic Thinking 1	HWK	**Lesson 2:** Guess The Direction		**Lesson 2:** CSS		**Lesson 5:** Web Forms		**Lesson 4:** Writing Algorithms	HWK	**Lesson 4:** Copyright
5		**Lesson 4:** Algorithmic Thinking 2		**Lesson 3:** Safe Lock System	HWK	**Year 8 Assessment Preparation**		**Lesson 6:** Assessment & Progress Booklets	HWK	**Lesson 5:** Iteration – While loops		**Lesson 5:** Health & Safety
6	HWK	**Lesson 5:** Abstraction	HWK	**Lesson 4:** Peer & Self Review / Improvements	HWK	**Year 8 Exams** (Online Assessment)				**Lesson 6:** Assessment		**Lesson 6:** Assessment & Progress Booklets
7		**Lesson 6:** Decomposition								Progress Booklets & Reflection		Progress Booklets & Reflection

12 Homework tasks averaging 2 per half term

5 Assessment Points plus Year 8 Examinatio

Year 9 Programme of Study Overview
((1 hour per week)

1: Introduction to Python (Yr 8 Continuation)	2: Introduction to Computer Networks	3: Artificial Intelligence	4: Advanced Python Programming	5: Creating Digital Graphics with Adobe Photoshop	6: Sound Recording & Editing with Audacity

Week No		Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1		CS Baseline Assessment & Seating Plans	HWK	Lesson 3: Topologies & Exam Preparation		Lesson 2: Machine Learning	HWK	Lesson 1: Python Basics RECAP		Lesson 6: Assessment & Progress Booklets		Lesson 7: Assessment & Progress Booklets
2		Lesson 4: Writing Algorithms		Lesson 4: Client-Server Net & Exam Preparation	HWK	Lesson 3: Ethics of AI		Lesson 2: Loops		Lesson 1: Vector Graphics	HWK	Lesson 1: Digitising Sound
3	HWK	Lesson 5: Iteration – While loops	HWK	Lesson 5: Encryption		Lesson 4: Image Recognition	HWK	Lesson 3: Lists	HWK	Lesson 2: Bitmap Graphics		Lesson 2: Jobs in the Sound Industry
4		Lesson 6: Assessment		Lesson 6: Assessment	HWK	Lesson 5: Turing Tests & Chatbots		Lesson 4: Procedures		Lesson 3: Conveying Meaning	HWK	Lesson 3: Listening & planning
5		Progress Booklets & Reflection		Year 9 Exams		Lesson 6 Assessment	HWK	Lesson 5: Functions	HWK	Lesson 4: Creating a Movie Poster Pt 1		Lesson 4: Creating an advertisement
6	HWK	Lesson 1: The Internet		Progress Booklets & Reflection		Progress Booklets & Reflection				Lesson 5: Creating a Movie Poster Pt 2	HWK	Lesson 5: Testing & Exporting Files
7		Lesson 2: Connectivity	HWK	Lesson 1: What is AI?					HWK	Lesson 6: Pt 4 Finishing / Exporting Files		Lesson 6: Assessment

16 Homework tasks averaging about 3 per half term
6 Assessment Points plus Year 9 Examination

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