

COMPUTER SCIENCE AND IT AT RANGE HIGH SCHOOL

The Computer Science department at Range High School aims to provide a broad and balanced curriculum that challenges and prepares students for their next learning phase. The curriculum is designed to meet the needs of all students, setting high expectations for progress and behavior. Students are challenged to become independent, lifelong users of digital technology, equipped with essential skills for the workplace and the ability to navigate the online world safely.

Subject Expertise & Disciplinary Concepts

- Digital Literacy & Safety: Understanding how to use technology safely and make good decisions in the online world.
- Programming & Algorithms: Developing computational thinking through languages like Scratch and Python, and mastering programming fundamentals.
- Computer Systems: Exploring hardware components like the CPU, memory, storage, and the fundamentals of how networks operate.
- Digital Content Production: Mastering user interface design, web design, and the production of digital graphics and magazines.

Key Stage 3 Curriculum Map

Year	Autumn Term	Spring Term	Summer Term
Year 7	7.1 Digital Literacy	7.2 Scratch Programming	7.2 AI and Python
Year 8	8.1 User Interfaces	8.2 Cyber Security	8.3 Web Design
Year 9	9.1 CS Fundamentals	9.2 Digital Content	9.3 Spreadsheets

Year 10 Curriculum Map

Term	GCSE Computer Science (OCR)	BTEC Tech Award DIT
Autumn (HT 1-2)	Topic 1: Programming Fundamentals (Unit 2) Topic 2: Algorithms (Unit 2)	Component 1 Learning Aim A-C Component 1 Complete Coursework
Spring (HT 3-4)	Topic 3: Robust Programs, Logic, Languages & IDEs (Unit 2) Revision & Programming / Mock Prep	Component 3 Learning Aim A, Exam Technique & Sit Mock Exam
Summer (HT 5-6)	Topic 4: CPU, Memory & Storage (Unit 1)	Component 2 Learning Aim A-C

Year 11 Curriculum Map

Term	GCSE Computer Science (OCR)	BTEC Tech Award DIT
Autumn (HT 1-2)	Topic 5: Data Representation Topic 6: Networks Topic 7: Network Security Topic 8: Impacts of CS	Component 2 Learning Aim A-C Component 1 Complete Coursework
Spring (HT 3-4)	REVISION PROGRAMME & SIT UNIT 1 AND 2 EXAMS	Component 3 Revision, Exam Technique & Sit Final Exam
Summer (HT 5-6)	Final Examinations	Coursework Completion

Year 12 Curriculum Map

Term	A Level Computer Science (OCR)	BTEC National Digital Content Production
Autumn (HT 1-2)	Topic 1: Structure of CPU Topic 12: Programming Tech Topic 13: Sorting Algorithms	Unit 30 A1: Page Layout Design Unit 29 A1: 2D Digital Graphics
Spring (HT 3-4)	Topic 2: CPU Types & OS Topic 15: Data Structures Topic 16: Comp Thinking	Unit 30 A2: Page Layout Designs Unit 29 A2: Digital Graphics for Media
Summer (HT 5-6)	Topic 4: App Generation Topic 5: Software Gen NEA: Analysis, Design & Development	Unit 12 A1: Effective Website Design

Year 13 Curriculum Map

Term	A Level Computer Science (OCR)	BTEC National Digital Content Production
Autumn (HT 1-2)	Topic 9: Web Development NEA: Analysis, Design & Iterative Testing Topic 6: Databases	Unit 12 A2: Website for Energise Entertainment Unit 14 A1: Codes/Conventions of Digital Magazines Unit 3: Exam Preparation
Spring (HT 3-4)	Topic 10: Representing Data Topic 11: Boolean Logic Component 3: Evaluation Topic 8: Legislation Topic 7: Networks, Compression & Encryption	Unit 14 A2: Producing Magazine Layouts Unit 3: Complete External Exam (25 Hours)

Summer (HT 5-6)	REVISION PROGRAMME & SIT UNIT 1 & 2 EXAMS	Final Portfolio & Unit Assessments
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