Computing & Digital Media Curriculum

Our curriculum equips students with the technical knowledge, practical skills, and ethical awareness needed to thrive in an increasingly digital world. Across all key stages, students learn to become **creators**, not just consumers, of technology.

Key Stage 3 (Years 7–9)
Year 7: Digital Foundations

Building confidence, safe online habits, and core computational thinking.

Term	Topic	Core Focus
Autumn 1	**Online Safety & Digital Systems**	File organization, digital footprints, and professional communication using Google Docs.
Autumn 2	**Block-Based Programming**	Problem-solving, algorithms, and mobile app design using visual block programming (EduBlocks).
Spring 1	**Data Modelling**	Organizing data, creating models, and making informed financial decisions using spreadsheets.
Spring 2	**Digital Media for a Cause**	Graphic design and creative media production to champion a social cause.
Summer 1	**Computer Systems & Networks**	How computers communicate, internet infrastructure, and data transmission.
Summer 2	**Physical Computing**	Hands-on hardware control and sensors using the **BBC micro:bit**.

Year 8: Technical Skills

Transitioning to text-based coding and exploring emerging technologies.

Term	Topic	Core Focus
Autumn 1	**Introduction to Python**	Writing text-based code to solve real-world problems; introductory cybersecurity.
Autumn 2	**Data Representation & Apps**	How computers store text and numbers; mobile application development.
Spring 1	**Spreadsheet Modelling & Budgets**	Efficient formulas, financial planning, and real-world data analysis.
Spring 2	**Vector Graphics & Web Design**	Designing scalable digital assets and writing code for the web.
Summer 1	**Artificial Intelligence & LLMs**	Understanding AI

Term	Topic	Core Focus
		fundamentals, machine learning models, and responsible prompt engineering.
Summer 2	**Smart Cities & IoT**	Internet of Things (IoT), machine learning with micro:bits, and interconnected smart environments.

Year 9: Real-World Computing

Applying advanced computing concepts to industry-standard workflows.

Term	Topic	Core Focus
Autumn 1	**Advanced Python & Chatbots**	Complex data structures (lists, sequences) and conversational AI bots.
Autumn 2	**Media Data Representation**	How computers digitize, compress, and render sound and images.
Spring 1	**Data Science**	Analyzing large datasets, spotting trends, and drawing data-led conclusions.
Spring 2	**Cybersecurity & Defence**	Social engineering, threats, encryption, and defensive network security.
Summer 1	**3D Digital Animation**	Modeling, movement, and visual digital storytelling.
Summer 2	**KS4 Pathway Project**	Bridging skills for GCSE Computer Science and CNAT Creative iMedia.

Key Stage 4 Pathways (Years 10 & 11)

Students can specialize in one of two distinct, industry-relevant qualification pathways:
Pathway 1: GCSE Computer Science

For students who enjoy math, logic, software engineering, and technical problem-solving.

- **Computer Systems (Paper 1):**
  - Systems Architecture (CPUs, Fetch-Decode-Execute cycle)
  - Memory, primary and secondary storage
  - Computer networks, topologies, protocols, and security
  - Ethical, legal, cultural, and environmental impacts of technology
- **Computational Thinking & Programming (Paper 2):**
  - Practical Python programming embedded throughout Years 10 & 11
  - Algorithms, searching, and sorting
  - Boolean logic, trace tables, and producing robust, defensive software

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Pathway 2: Cambridge National (CNAT) Creative iMedia

For students interested in digital media production, visual arts, graphic design, and marketing.

- **R093: The Media Industry & Pre-Production (Exam):**
  - Client briefs, target audiences, and project work plans
  - Pre-production documents (mind maps, mood boards, storyboards, visualizations)
  - Copyright, legislation, and digital asset distribution
- **R094: Visual Identity & Digital Graphics (Coursework / NEA):**
  - Designing professional branding, logos, and digital graphic layouts
  - Sourcing, preparing, and editing graphic assets using industry software
- **R095: Characters & Comic Creation (Coursework / NEA):**
  - Character design, narrative development, and digital comic formatting

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Enrichment & Competitions

Every student is encouraged to develop extracurricular digital badges and compete nationally:

- **Bebras Computational Thinking Challenge** (University of Oxford)
- **Perse Coding Challenge** & **CyberFirst Girls Competition**
- **iDEA Awards** (The digital equivalent of the Duke of Edinburgh Award)
- **BAFTA Young Game Designers** & **Into Film Clubs**
- **Isaac Computer Science Discovery & Booster Masterclasses**