Bullers Wood School for Boys

Computer Science

Key Stage 3 | Years 7-9

Our aim

To develop computational thinking: understanding how computers and networks work, solving problems through programming, and using technology safely, critically and creatively in a digital world.

From staying safe online to writing real Python programs: students learn how computers and networks work, think logically about algorithms, and build their coding skills year on year.

- **Online safety**
- **Algorithms**
- **Binary & logic**
- **Hardware & networks**
- **Scratch → Python**
- **Cryptography**

	Year 7	Year 8	Year 9
Autumn 1	**Safe internet use** **Browsers, search engines, networks, online communication**	**Cyber safety & scams**	**Python next steps** Evaluating algorithms, abstraction, pattern recognition
Autumn 2	**Hardware & software** **Computer architecture, input–process–output, storage**	**Cryptography & ciphers**	**[Autumn 2 topic to confirm]**
Spring 1	**Spreadsheets & cryptography** **Formulas; encryption and the Enigma machine**	**Understanding computers** **Operating systems and software**	**Understanding computers** The CPU, types of storage, emerging technology
Spring 2	**Algorithms** **Decomposition, loops, selection, debugging**	**Networks & the internet**	**Binary & logic gates** Boolean logic and data representation
Summer 1	**Programming in Scratch** **Variables, operators, conditions — building complete programs**	**Introduction to programming**	**Networks & security** Encryption, IP addressing, HTML web pages
Summer 2		**Introduction to Python**	**Flowcharts & algorithms** Sequence, selection, iteration

Checking progress

- Retrieval quizzes in most lessons
- A topic assessment about each half-term
- End-of-year assessment in the summer

Homework

- Every two weeks on Educake, about 30 minutes..

Help at home

- 0–15 minutes a week reviewing work on Teams
- BBC Bitesize, Educake, Seneca
- Ask him to explain a concept to you

Bullers Wood School for Boys

Computer Science & Business

Key Stage 4 | Years 10-11

Two GCSE options for students interested in technology and enterprise. Both are assessed entirely by two written exams at the end of Year 11.

GCSE Computer Science – OCR

What you study	What you study
Paper 1: Computer systems 1 hr 30 · 80 marks 50% + Systems architecture; memory and storage + Networks, connections and protocols + Network security; systems software + Ethical, legal, cultural and environmental impacts	**Paper 2: Computational thinking, algorithms & programming** 1 hr 30 · 80 marks 50% + Algorithms and programming fundamentals + Producing robust programs + Boolean logic + Languages and development environments
A demanding, logic- and maths-driven course that rewards methodical problem-solving and regular independent practice outside lessons.	

GCSE Business – AQA

What you study	What you study
Paper 1 · Influences of operations and HRM 1 hr 45 · 90 marks 50% + Business in the real world + Influences on business + Business operations + Human resources	**Paper 2 · Influences of marketing and finance** 1 hr 45 · 90 marks 50% + Business in the real world + Influences on business + Marketing + Finance
Students learn to use business terms, analyse numbers and written evidence, and make and justify decisions in real and unfamiliar business situations.	

Help at home

+ For Computer Science, regular coding practice and past-paper questions; for Business, talking about companies in the news and how they make decisions.