Broadening Horizons

We aim to broaden horizons by introducing software tools that can be used for a wide range of purposes. Many of the tools introduced are free and available for students to use at home. We ensure that students understand how software can be used in the real world, e.g. to plan an event or manage finances. We also introduce students to hardware and software that many students may not have access to outside of school, including Micro:bits, the Adobe suite, Microsoft Office, Chromebooks and PCs.

Careers

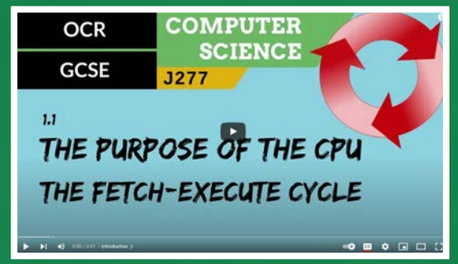
We run a series of ‘Careers in the Curriculum’ weeks in our school. For ICT, this week takes place in December. Students take part in a number of activities to encourage them to think about how what they learn in the classroom can be applied in a number of future careers including: IT Manager, Software Developer, Data Scientist, Web Developer and Information Security Analyst.

Immerse Yourself

Craig n Dave Videos

Students have access to a revision website called “Smart Revise” by Craig n Dave. This contains a range of multiple choice questions, exam style questions and flashcards.

The set of videos - which can be accessed via the QR code above covers the Computer Science course in more detail.



Praise and Reward

Our rewards system can be broadly split into four categories: classroom level, subject level, school level and privilege rewards. We’ll focus on classroom and subject rewards here - for more information about our rewards schemes, please see our website.

CLASSROOM LEVEL REWARDS

Awarded for: working hard, taking risks and rising to a challenge, making mistakes and learning from them, helping others, and taking pride in the school community.

Rewarded by: praise postcards, positive phone calls to parents/ carers, positive text messages home, and lesson based prizes.

SUBJECT LEVEL REWARDS

Reward scheme: star of the week, curriculum awards (Subject/ School Way, participation, working with pride, embracing the whole curriculum), high flyer, extra mile, most improved.

Rewarded by: names displayed on reward boards, certificates, social media posts.

Contact

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BBC Bitesize Computer Science

BBC Bitesize’s Computer Science GCSE OCR page is a fantastic learning tool for Y10 Computer Science students.

Scan the QR code to check it out!

WICKERSLEY PARTNERSHIP TRUST.

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December
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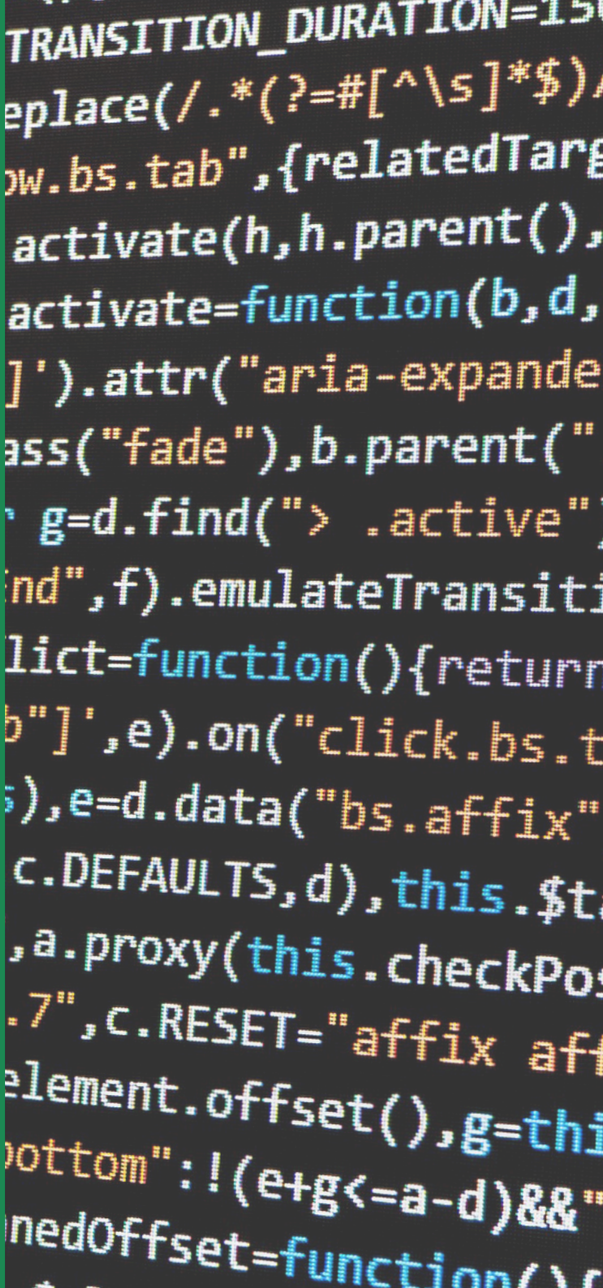
COMPUTER SCIENCE

Curriculum Newsletter

YEAR 10



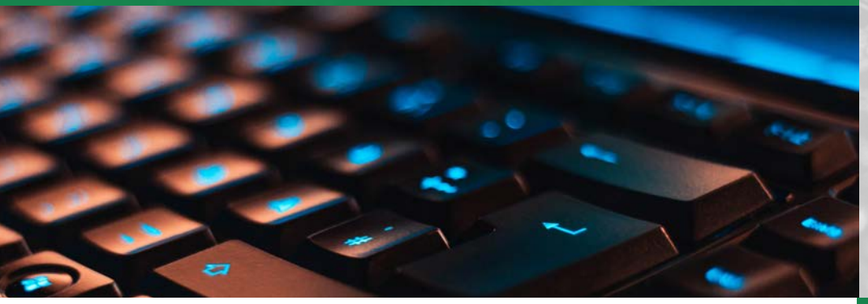
Curriculum Intent

In Computing we aim to provide an engaging, challenging, well sequenced curriculum which is broad and balanced, covering a range of computing and ICT topics. We aim to develop our students into 21st Century Digital Citizens who are able to use digital technology safely and responsibly, and to teach students both how to use technology effectively, with an understanding of how it works.

We aim to engender a love of learning, self-belief and aspiration through 4 key intentions:

- The Removal of Barriers to Learning
- Developing Skills for Learning
- Developing Personal Attributes
- Enriching Student Experiences and Broadening their Horizons

The Computing and IT Department's core purpose is to deliver an engaging and challenging curriculum through outstanding teaching and learning. Our aim is for students to develop skills and knowledge to prepare them for a future in a world where the use of technology is fully embodied.



Year 10 Curriculum

In Year 10, the focus is on computer systems where the following topics are covered:

Systems Architecture

We study: the purpose of the CPU, common CPU components, the von neumann architecture, and how common characteristics of CPUs affect their performance such as clock speed, cache size and number of cores.

Memory and Storage

We study: primary storage, the purpose of RAM and ROM, secondary storage, common storage technologies and suitable storage devices for a given purpose,virtual memory, units of data storage, data capacity requirements, conversion between Binary, Denary and Hexadecimal, representation of characters, images, and sounds in binary.

Computer Networks, Connections and Protocols

We explore: factors that affect the performance of networks, the roles of computers in a client-server and a peer-to peer network, network hardware, DNS (Domain Name Server), the cloud, network topologies, protocols and layers.

Network Security

We study: forms of attack including Malware, Social Engineering, Brute-force and Denial of Service attacks. We also look into common prevention methods including: Penetration Testing, Anti-Malware Software Firewalls and Encryption.

Systems Software

We explore: the purpose and functionality of operating systems, including user interface, memory management, peripheral management and drivers, the purpose and functionality of utility software including encryption software, defragmentation, and data compression.

Ethical, Legal, Cultural and Environmental Impacts of Digital Technology

We study: the impacts of digital technology on wider society including ethical issues, legal issue, cultural issues, environmental issues and privacy issues. We also look into legislation relevant to Computer Science including: The Data Protection Act, Computer Misuse Act, Copyright Designs and Patents Act and Software Licences (i.e. open source and proprietary).

Python Programming

The final topic in Year 10 is Python Programming, in preparation for computational thinking, algorithms and programming topics in Year 11.

Have your say!

At WPT we're always looking for feedback. If you have any thoughts/opinions on this Curriculum Newsletter, its content or the curriculum in general, please scan the QR code to fill out a short feedback form.

Assessment Points

GCSE Computer Science (9-1) - J277 - OCR

Students are assessed at the end of each topic, roughly once per half term. Assessments are in a variety of formats including short and long answer written questions, multiple choice questions and practical tasks. Year 10 mock exams take place during the spring and consist of exam style questions from the units they have been studying throughout Year 10.

The Computing Way

The Computing Way is designed to help students become young subject specialists and has a key focus on the vital skills needed to achieve their full potential in this subject area.