COMPUTER SCIENCE

Curriculum Newsletter

YEAR 9

Contact

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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 at KS3 is to deliver an engaging and challenging curriculum through outstanding teaching and learning. Our aim is for students to develop skills and knowledge in digital technologies and computer science, to prepare them for a future in a world where the use of this technology is fully embodied. Students are given the opportunity to develop their computer coding and digital technology skills, allowing them to take their studies onto KS4 and beyond, developing skills that can be applied in a range of career paths and industries.

Year 9 Curriculum

HTML and CSS
Exploring the fundamental technologies behind websites. Students will learn the basic skills required to create a web page using HTML, adding key elements such as titles, headings, images, hyperlinks and tables. Students will also learn the fundamental principles of CSS, using these to style key components of a web page.

Inside a PC
Students will take a PC apart and explore the key components that make up computer systems. Students will cover the role of components such as the CPU, RAM and secondary storage.

Algorithms
In this topic students will learn about algorithms and how to represent them using flowcharts and pseudocode. Key algorithms for searching and sorting data are explored.

Python Programming
Building on the text-based programming skills with small basic in Year 8, students will cover key programming constructs such as sequence selection and iteration using the Python programming language.

Computer Systems
In this topic students will explore computer systems in more detail, developing an understanding of what the CPU does and factors that affect its performance. This topic also covers RAM, ROM, Network Security, systems software and ethical issues around technology.

Algorithms and Programming
Here students will cover a range of topics linked to algorithms and programming. These include computational thinking techniques, data representation and programming fundamentals.

Assessment Points ✅

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.

Immerse Yourself

BBC Bitesize Computer Science

- ✅ Develop Skills
- ✅ Online Tests
- ✅ Computer Science Revision at home

KS3 Seneca Revision

- ✅ Get Revising Quicker!
- ✅ Large Variety of Topics
- ✅ Study Support and Revision

These are some great educational tools to help students when revising.

If they are struggling with topics in lessons or want to enhance their learning in the classroom then these links are an ideal place to cover content at home.

Test Your Knowledge...

This BBC Bitesize KS3 Computer Science quiz is a fantastic way to memorise relevant terms to help you with your studies. Click on the icon below to start!

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.

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.

Python Programming

Python is a general-purpose, high-level programming language that's used for a variety of tasks, including: building software and websites, automating tasks, data analysis and visualization, machine learning, and creating games. Click on the logo to find out more!

Algorithms Explained - BBC

What is an algorithm? You may be familiar with the idea in the context of Instagram, YouTube or Facebook, but it can feel like a big, abstract concept. Presenter Jon Stroud gives you a step-by-step guide to what algorithms actually are, what algorithms do, and how algorithms work. Click on the logo to learn more!

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.

Click on the logo below to hear about the career of a Software Developer!

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.

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 click on the title to fill out a short feedback form.