Computer Science Curriculum Intent

Our aim is to provide students with the opportunity to be able to logically assess situations. All our students are entitled to develop their computer literacy in the form of typing, analysing and programming which is essential for them to be productive young adults in other subjects and the working world. Studying Computer Science empowers the students to move forward with their lives with strong computer literacy and knowledge which will help them to make more educated decisions.

What Students Should Know and Be Able To Do

Entitled to Powerful Knowledge

All students in computer science have the opportunity to engage with knowledge which increases their computer literacy and extensively explores Networks, Online safety, Programming, Hardware and software.

Taking the national curriculum as a starting point and being particularly conscious of the role that oracy, literacy, and numeracy play in unlocking the whole curriculum. They are emphasised throughout our curriculum with carefully planned turn and talks to promote oracy along with independent tasks to promote the use of Microsoft office and other computer literacy skills.

We ensure that every student accesses all strands of computer science and has an opportunity to build their skills and understanding as they progress. For example:

Topic	Year 7	Year 8	Year 9	Year 10	Year 11
The internet	Cyberbullying and basic network components	Internet safety (Malware and Social engineering)	Cyber phronesis, Analysis digital data	Internet protocols	Protocol layering

By doing this we make sure all students understand the importance and the impact the digital world can have, which ensures all students possess the knowledge and confidence necessary to successfully navigate the modern world.

Knowledge is Diverse, Inclusive and Representative

In computer science we address the diversity of the online community. We address how they can be discrimination against people and what we can d to prevent this discrimination. We start in Year 7 by looking into the impacts of cyberbullying and explore the mechanics and effects of cyberbullying. While in Year 8 we look at cybercrimes and the effect they have on people with low computer literacy. This is to raise awareness of scams and other online threats. In Year 9 we look into cyber phronesis and using real world data to educate and promote young people on the wider effect of their actions.

In other areas of Computer Science we look at the core concepts of programming which is universal and can be applied to any other language to allow our students to take the skills they have learnt and apply it to another language of their choice.

Education With Character

We want our students to be successful members of society, and to support this we ensure that we provide opportunities to develop characteristics that embody our Regis 10 values.

Our curriculum is ambitious and encourages our students to develop and demonstrate resilience and independence when work becomes challenging. Programming is especially influential in building and developing resilience within students, which will support students in life when they leave school. Our ambitious and challenging curriculum provides opportunities for students to learn how to adapt and thrive when faced with difficult problems, learning that becoming stuck or making a mistake is a powerful learning opportunity.

We want our students to develop logical reasoning and critical thinking, and so problem solving is viewed not as an extension activity, but as an entitlement.

How Students Acquire This Knowledge

"The ultimate aim of curriculum must be to a structured path, a movement through knowledge in time, where travel leads to acquisition and understanding, to seeing the world in a new way."

Coherent Whole

The order that topics are taught in Computer Science is important, and our curriculum is coherently planned and sequenced so that powerful knowledge is built through hierarchical progression. This provides the students with the prior knowledge needed to access new content.

Acquire and Apply

Prior knowledge is regularly revisited throughout the curriculum where it is built upon and applied to new contexts. The scheme of work document shows where each lesson fits within the entire curriculum and illustrates the essential computing knowledge and skills that are required to be secured before moving on. An example of this is how students need to be able to understand core programming techniques like iteration and selection before applying it to real life code.

Adapt and Improve

Adapt what is taught: Our curriculum is designed to be delivered in its entirety and where it is applicable and appropriate our curriculum is adapted to reflect out local context.

Adapt when it is taught: Our curriculum is carefully sequenced so that knowledge builds in a clear and coherent manner, however teachers have autonomy over how to maximise the impact this has for their class. For example, if a teacher has assessed that students do not have the necessary prior knowledge to successfully access a topic, they will judge it necessary to prioritise revisiting this prior knowledge before moving onto new content.

Adapt how it is taught: Although the core content and fundamental skills of the curriculum are delivered to all students, teachers will adapt lessons to best meet the needs of their own class. For example, teachers will check pupil's understanding rigorously and systematically, identifying misconceptions and providing clear feedback. In doing so they respond and adapt their teaching as necessary for the class.

Improve: Curriculum development is an ongoing process. We work collaboratively within our department, and with our academy trust to ensure our curriculum continuously improves. Assessment is used within our curriculum, not just to check understanding and inform teachers of student gaps, but also to allow leaders to reflect on the impact our curriculum is having and assess whether it can be adapted in a way to better support students. Computer science teachers are provided with opportunities throughout the year to access internal and external subject specific CPD, and the knowledge gained from this is shared within the department and used to continuously improve and enhance our curriculum.