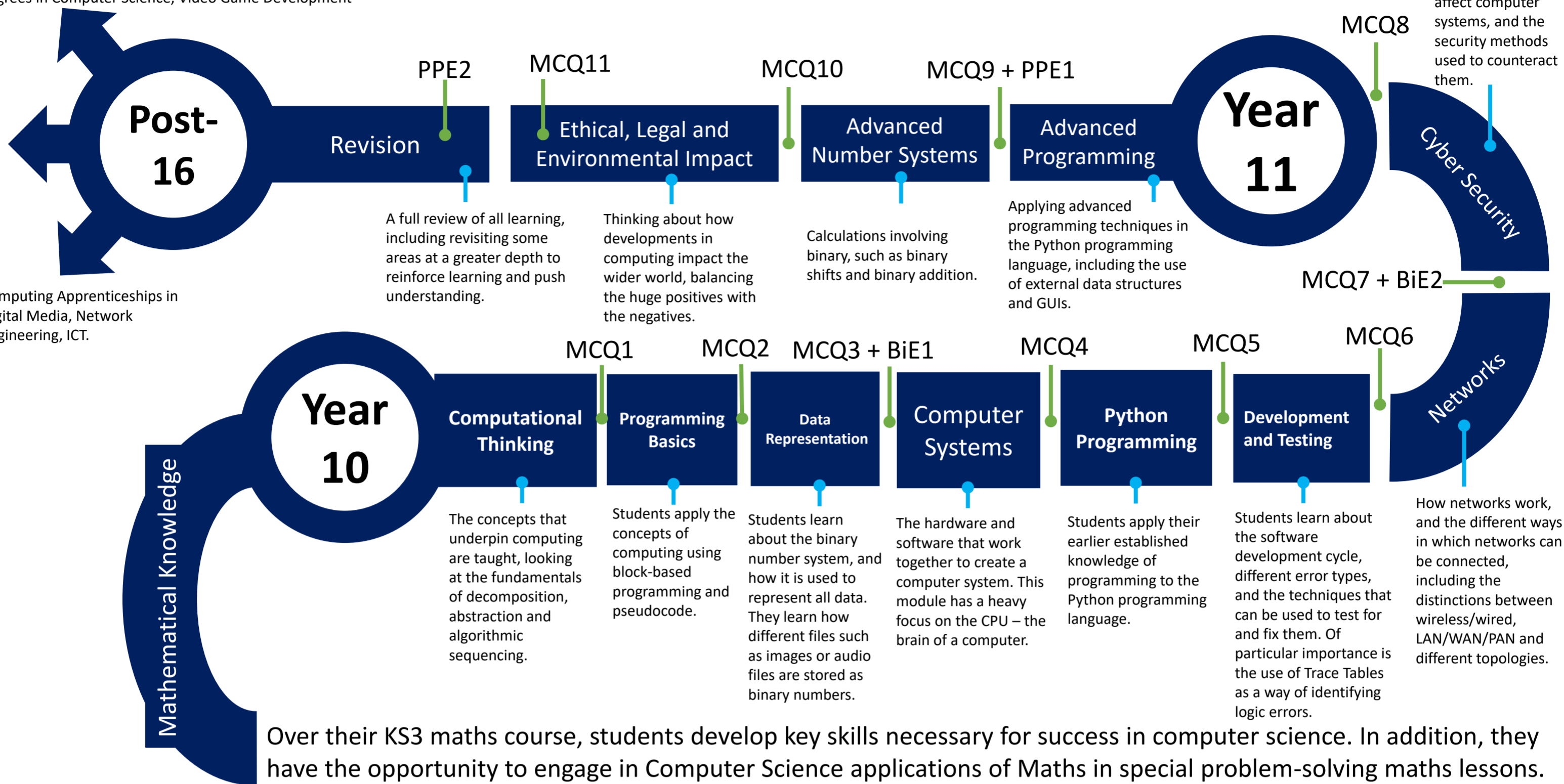




A-Levels in Mathematics, Computer Science or ICT.
BTECs in Software Development, Digital Marketing
Degrees in Computer Science, Video Game Development



The Computer Science Curriculum at Nova is Ambitious, Sequenced Carefully, Principled, Inclusive, Research-informed and Enriching.



AMBITIOUS

Students will be challenged by the complexity of programming in the GCSE, where they will learn industry standard skills heavily sought after in the real world. In addition, the theoretical knowledge of computer systems, networks and computational thinking require a high level of knowledge and cognition. This subject also stretches students' mathematical ability, with the study of binary and hexadecimal number systems helping to further cement mathematical concepts such as indices and place value.



SEQUENCED

Computer Science is carefully sequenced to first allow students to gain the requisite programming skills in simpler contexts, before applying to actual computer code. In addition, the theory content builds on each other with knowledge of binary linking to software, which in turn links to hardware. This knowledge is then further built upon when dealing with networks and the ethical, legal and environmental impact of computing.



PRINCIPLED

As a requirement for the course, students learn about the wider context of computing, specifically looking at the ethical, legal and environmental impact of computing. Students learn that fantastic technological development does not come without cost – often to the environment, but also in opening up new avenues for criminals to exploit. They learn about contentious issues such as hacking and piracy, and how computers should only be used for positive reasons.



INCLUSIVE

Computer Science is an extremely equalising subject, where all students have the opportunity to succeed regardless of their background or prior experience. It is a subject where people from the humblest beginnings can develop programs that change the world. All software used within the course is free to students, and computer rooms are accessible for any home study task.



RESEARCH INFORMED

In Computer Science, we utilise well documented research to underpin our teaching and learning. The widely renowned "Rosenshine Principles" form the basis of our teaching style, where new content is introduced by the expert teacher, students have opportunities to expand their understanding through discussion tasks, paired work or shared learning, followed by opportunities for students to independently practice to cement their understanding. We make use of frequent review of learning, using data-driven instruction techniques to help close gaps where they occur.



ENRICHING

Alongside the main GCSE, KS3 and KS4 students have the opportunity to develop their programming skills in an afterschool Coding Club. This club predominantly focuses on video game development, but also has elements of systems engineering and mobile app development. Computer Science opportunities have the opportunity to attend a trip to Bletchley Park, a world-famous destination where computer scientists saved millions of lives during World War II.