Curriculum Map

Year 10

Half Term	Unit title with hyperlink to scheme of work	Unit summary	Skills & content covered	Skills & content revisited	Summary of formative marketing, feedback and student response	Summative assessment schedule, including assessment critertia
Autumn 1	Computational thinking and Python recap + Python next steps	Students learnt about basics in KS3 and in Year 9. Our aim is to have some sort of programming activities every week.	Students will be revisiting python learnt in Year 9 by looking at different problem solving scenarios. More complex programming skills such as 1D and 2D arrays, subrouroutines and file handling	Python basics and abstraction, decomposition, algorithmic thinking	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment
Autumn 2	System architecture, Memory and secondary storage	This unit covers the CPU, memory (RAM and ROM), and embedded systems. Students will also compare secondary storage types.	Students will explore the fundamental components of computer architecture, including the CPU, its function, and the fetch-execute cycle. They will learn about different types of memory, such as RAM, ROM, and cache, and their roles in system performance. Additionally, the unit covers secondary storage, comparing various storage devices (HDDs, SSDs, optical, and cloud storage) in terms of capacity, speed, and reliability. By the end of this unit, students will understand how these components interact to process and store data efficiently	Students had covered computer components including input, output and storage devices in KS3.	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment
Spring 1	System Software, Database and Ethical, Legal, Cultural and Environmental Issues	This unit covers system software, including operating systems and utility programs. Students will also learn SQL for database queries and explore the ethical, legal, cultural, and environmental impacts of technology on society.	Students will develop an understanding of system software, including operating systems and utility programs, and how they manage hardware, software, and security. They will also gain practical skills in SQL, learning how to create, query, and manipulate databases effectively. Additionally, students will explore the ethical, legal, cultural, and environmental impacts of technology, developing critical thinking skills to assess how computing influences society. Through a combination of theory and practical application, this half term equips students with both technical knowledge and analytical skills essential for responsible and effective use of technology.	Students previously explored operating systems and utility software in KS3. They will apply their prior coding experience to support their learning of a new programming language, SQL. Additionally, they will use essay-style writing skills from English to apply in the context of how technology is impacting society.	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment
Spring 2	Defensive Desgin and Testing	In this unit, students will learn defensive design techniques to create robust programs that handle unexpected inputs and errors. They will explore strategies such as input validation, error handling, and planning for potential failures to ensure software reliability and security.	Students will develop skills in defensive design techniques such as input validation and error handling, ensuring their programs are robust and secure. They will also learn to create test plans and trace tables to identify and fix errors. The unit covers various types of testing, including white-box, black-box, and functional testing, helping students understand how to thoroughly evaluate and improve their software.	Students previously learned programming techniques. In this unit, they will build on that knowledge by applying coding skills to implement defensive design techniques and testing strategies. They will also use problem-solving and analytical skills to ensure programs are robust, reliable, and efficient.	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment
Summer 1	Network	Students will build on their previous knowledge of networks by exploring key concepts such as protocols, the TCP/IP stack, and how data is transmitted across networks. They will develop an understanding of how different layers of the network stack work together to enable communication, as well as the roles of protocols like HTTP, FTP, and packet switching and DNS in data exchange.	In this unit, students will develop skills in understanding and applying network protocols, including TCP/IP, HTTP, FTP, and DNS, to analyze and troubleshoot network communication. They will explore the layers of the TCP/IP stack, as well as the different types of network hardware, including routers, switches, and wireless networks, to better understand how they support network functionality.	Students have previously studied networks and will build upon and expand their existing knowledge in this unit.	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment
Summer 2	Revision	Students will review all the content covered throughout the year to consolidate their understanding and prepare for their mock exams. They will focus on key topics from both Paper 1 and Paper 2, reinforcing their knowledge and practicing exam techniques to ensure readiness for the assessments.	Students will cover a comprehensive review of topics from both Paper 1 and Paper 2, including system architecture, programming, networking, and security. They will refine their exam skills by practicing with past papers, applying their knowledge to solve problems, and focusing on key concepts to ensure they are well-prepared for their mock exams.	Students will be revisiting all content learnt in preparation for the mock exams.	Homework, Teams activities/tasks and verbal feedback. Identifying and correcting common misconceptions. Feedback sheets identifying student's targets and student response.	End of unit assessment