

Key Stage Three Curriculum – Carre’s Grammar School

Subject						
	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Year 7	<p>E-Safety, Teams and Office Skills</p> <p>Introduction to the school network as well as the usage of Microsoft teams. Students will learn a range of office skills, they will be assigned a set of small projects where they will be tested to see what their base abilities are in these software packages. Students will be given extensions and challenges to allow those more familiar to thrive and those who perhaps did not have an IT teacher at primary to catch-up to a sufficient level.</p>	<p>Scratch Project</p> <p>Students will be tasked with designing and putting a game together, students will be taught the basics as a catch-up for those who did not study the subject as primary level. Stretch and challenge tasks will get students to use iteration and selection to develop their game and extend it with features such as variables.</p>	<p>Python Programming</p> <p>Students will tackle a text-based programming language, they will look at input, outputs and selection in this module. Advanced students will be able to use multiple types of loops and be able to integrate logic gates (and/or/not) into their code.</p>	<p>Hardware & Software Module</p> <p>Students will look at the hardware components such as RAM/CPU/Hard drive to see how they work together, they will also investigate peripheral devices and see how they are designed for those with additional needs. Software will be categorised so students understand the differences between the application, utility and operating system.</p>	<p>Flowol</p> <p>In this module, students will learn the basic principles behind modelling systems using flowcharting software. They will tackle a range of scenarios to reinforce the concepts of selection and iteration to design solutions to real world problems.</p>	<p>ASCII and Touch Typing</p> <p>Students will learn how letters are represented as numbers, looking at the basic principles behind ASCII and thus having a small introduction to binary. After these lessons, they will undertake a practical activity that is designed to improve their touch-typing skills as this will help their rate of work next year for the research-based topics they approach.</p>
	Assessment – Baseline Assessment		Assessment Scratch and Python Quiz		Assessment – End of Year Exam	
Year 8	<p>Turtle with Python</p> <p>Students will build on computational thinking skills in this module to use the turtle graphics package to tackle a range of tasks. This module will build on prior python experience but also link to algorithms they will have run into during the Flowol module.</p>	<p>Business and Technology Module</p> <p>Students will follow on from their Microsoft office skills to apply these to a business context, designing business documents and coming up with presentations and spreadsheets to show that they have thought about all elements of the business.</p>	<p>Excel Skills</p> <p>In this module, more advanced selection statements, as well as goal seek and Vlookup will be taught. Students will have a canteen example where they can gather analytical data to help make decisions on product stocks as well as react to change in scenarios.</p>	<p>Understanding Computer Hardware and Software</p> <p>Students will look at how binary numbers and logic gates work in this unit, it will start to introduce concepts such as images and sound and how they are represented in a binary format.</p>	<p>E-Safety and Applications Development</p> <p>This topic will revisit the social media aspect from the previous year, it will start to look at how they interact with their peers and ensure that they have a sufficient awareness of the consequences of negative online behaviour.</p>	<p>Artificial Intelligence & Problem Solving</p> <p>Concepts such as search algorithms will be looked at as students start to see the models and processes that underpin how artificial intelligence works. They will also apply their own moral and ethical skills to decide how artificial intelligence should be programmed to meet logical tests.</p>

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	Assessment – Business Pitch and Socrative Tasks		Assessment – Excel Quiz and Socrative Test		Assessment – End of Year Exam	
Year 9	<p>Crime and Computing</p> <p>Students will look at how criminals can intercept data as well as obtain personal information about their victims. This module will outline the vulnerabilities of certain systems as well as explain the new and innovative ways that hackers are able to make use of new technology for criminal purposes.</p>	<p>Networking and Encryption</p> <p>Following on from Cyber security, there will be lessons that focus on how data travels across networks, how it is designed to be secure. This will look at encryption but also at code breaking using cipher wheels including Caesar and pigpen.</p>	<p>Propaganda and Social Media</p> <p>Revisiting E-safety, this module studies how "fake news" and propaganda is used to influence people. It highlights the need to be thorough in examining and selecting data but also shows the risks associated with social media and how we can be influenced in negative ways.</p>	<p>Computer Logic and Problem solving</p> <p>This module will revisit sound and image, but look at how these files are compressed as well transmitted. There will be practical elements such as looking at how computers are built.</p>	<p>Future Technologies</p> <p>Students will investigate and research future technologies on a range of topics such as food, travel and household items. They will put their findings together in the form of a video using moviemaker which will allow them to present their findings.</p>	<p>Business / Computer Science Pre-course Or Budgeting and Careers</p> <p>GCSE Computer Science students will continue with programming tasks during this term, to build their skills for KS4.</p> <p>Other students will work on a careers project that will get them to put together a careers document that will highlight what they need to do to pursue their dream job. They will also look at salaries/bills and put these together in a spreadsheet to show their budgeting.</p>
	Assessment – Socrative Assessments		Assessment – End of Year Exam		Assessment – Video Demonstration / Pre-Course Materials	