Year 9 Curriculum Overview

Rationale: The Year 9 curriculum is designed to give students an opportunity to further their development of prior learning in the fields of cyber security and programming skills (both HTML and Python). Students will be introduced to GCSE level learning with topics such as searching and sorting algorithms and also investigate the important contributions that women have made in computer science preparing them for further study at GCSE and the world of work. Finally students will be able to combine their skills and knowledge of coding selection/CSS with literacy and creative thinking by developing a non-linear interactive story.

Term/Length of Time	Outline	Assessment/Teacher Feedback Opportunities	Homework and Literacy resources
Autumn 1	**Cyber Missions** Students will take their cyber security skills development to the next level after completing cyber explorers. Students begin by learning how to investigate compromised systems and secure networks. This is done through a series of engaging activities, games, quizzes and puzzles, helping students develop their problem solving, attention to detail and cyber security skills. Students will get to grips with the Computer Misuse Act and are introduced to the National Cyber Agency's Cyber Choices program, which aims to teach them how to make the right decisions in how they use technology legally and ethically. These cyber security skills will allow students to contribute to a safer society in their future world of work.	MS Forms based end of unit assessment. Mixture of Open and Closed questions with an additional focus on keywords/literacy/numeracy	**Minimum homework expectation - to be set on G4S** Completion of revision activity using Seneca Learning or bespoke learning activity **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates. Access BBC Bitesize and research more into this topic Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library

	This unit of learning is developed by the Department for Digital, Culture, Media and Sport (DCMS).		
Autumn 2	**Introduction to Python Programming** Students will recap on prior learning form Year 8 and develop their understanding and capabilities in using a high level programming language by exploring the use of selection and iteration.	MS Forms based end of unit assessment. Mixture of Open and Closed questions with an additional focus on keywords/literacy	**Minimum homework expectation - to be set on G4S** Completion of revision activity using Seneca Learning or bespoke learning activity **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates. Use the interactive Python tutorials on LGFL to embed and develop knowledge. Access BBC Bitesize to recap on programming basics and research more into the topic of selection here and iteration here Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library

Spring 1	**Searching and Sorting Algorithms** Students will learn about the standard searching algorithms (Binary and Linear) and standard sorting algorithms (Bubble, Merge and Insertion). Students will need to be able to understand the main steps of each algorithm and apply the algorithm to a given data set.	MS Forms based end of unit assessment. Mixture of Open and Closed questions with an additional focus on keywords/literacy	**Minimum homework expectation - to be set on G4S** Completion of revision activity using Seneca Learning or bespoke learning activity **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates Access BBC Bitesize and research more into this topic Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library
Spring 2	**Women in Computing** Students are introduced to some key women in the field of Computer Science. Students carry out some research into famous women in computing including their background and contribution to Computer Science.	MS Forms based end of unit assessment. Mixture of Open and Closed questions with an additional focus on keywords/literacy/numeracy	**Minimum homework expectation - to be set on G4S** Completion of a reading task plus an MSForm quiz to assess understanding **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates

			Access the Science Museum and the Computer History Museum to research more into this topic Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library
Summer 1	**HTML Programming - Web Page** Students will recap and embed their understanding on how to create a simple webpage from Year 7. In addition, students will learn about the use of Cascading Style Sheets (CSS) and DIV tags to improve web page layout.	MS Forms based end of unit assessment. Mixture of Open and Closed questions with an additional focus on keywords/literacy/numeracy	**Minimum homework expectation - to be set on G4S** Completion of revision activity using Seneca Learning or bespoke learning activity **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates Access BBC Bitesize to recap on learning from Year 7 here and learn about the new Year 8 topics here Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer

			Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library
Summer 2	**Creating a Non-Linear Story Game Using Twine** This unit aims to provide students with the skills to use Twine software to create interactive, nonlinear stories. It allows students to create a visual novel through its story builder. In addition to being heavily linked to literacy it allows students to learn basic coding to create a narrative with branching paths. The platform provides an easy way for students to create their own digital stories and adventures.	Verbal teacher feedback on production of a branching, non-linear story/game. Recognition and rewards for additional activities completed beyond the classroom.	**Minimum homework expectation - to be set on G4S** Completion of revision activity using Seneca Learning or bespoke learning activity **Optional homework tasks and Literacy resources** Creation of revision resource (e.g. mind map) to be submitted alongside compulsory activity Complete some Bronze Award badges on the iDEA Award to showcase digital literacy and employability skills. Once complete students can move to Silver and then Gold certificates Develop your Twine adventure/story by following this video playlist Complete an activity on Hour of Code Watch an episode of BBC Click on the BBC iPlayer Additional Reading for Budding Computer Scientists: Choose a book from this recommended reading list some of which can be found in the department or the library