MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 4 Long Term Planning

Year 10 2021-22 SYLLABUS: Pearson/Edexcel GCSE Computer Science. Pupils will learn how to create complex programs using Python. They will also develop an understanding of how computers work.

Curriculum Area: Business Technology (Computing)

Year 10	Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
Syllabus	**Topic 1: Computational Thinking** **Topic 6: Problem Solving with Programming**	**Topic 2: Data** **Topic 6: Problem Solving with Programming**	**Topic 3: Computers** **Topic 6: Problem Solving with Programming**
Connections to prior learning	In KS3, students will have been taught how develop programs using Python in both year 8 and 9, in KS4 they will build upon this which is essential for their practical programming exam in year 11.	In Year 8, students will learn the fundamentals of data representation so they should be able to explain what binary is and be able to convert between binary and denary numbers and be able to perform calculations using them.	In year 7 and 8 students will be introduced to the hardware and software of a computer which will allow them to carry their knowledge and understanding of how computers work through to KS4.
Knowledge	Pupils will learn about algorithms and how they are used in everyday life. They will understand how computer use algorithms to process any actions. They will also understand how to decompose a problem. Students will develop their programming knowledge as they look to move onto more advanced features of python and be able to create and read programs based on pseudocode and flowchart algorithms.	Pupils will be able to explain how binary is used and how data is represented in different formats by a computer. Students will develop their programming knowledge as they look to move onto more advanced features of python and be able to create and read programs based on pseudocode and flowchart algorithms.	Pupils will be able to explain the hardware and software required to make a computer functional. They also be able to explain different types of programming languages. Students will develop their programming knowledge as they look to move onto more advanced features of python and be able to create and read programs based on pseudocode and flowchart algorithms.
Skills	They will develop skills in problem solving to find solutions. Pupils will develop their exam answering technique in preparation for 9-mark questions.	Pupils will be able to convert between denary, binary, hexadecimal and ascii. Encrypt data using a suitable conversion method and create a database. Pupils will develop their exam answering technique in preparation for 9-mark questions.	Pupils will be able to identify parts of a computer and explain what they do. They will be able to solve any logical gate problems. Pupils will develop their exam answering technique in preparation for 9-mark questions.
Assessment	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on this terms topic.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.
Homework	Homework will be issued every 2 weeks. This will build and extend learning in this topic. Homework will consist of a mixture of past paper questions, online programming tasks, independent research, flipped learning and GCSE POD.	Homework will be issued every 2 weeks. This will build and extend learning in this topic. Homework will consist of a mixture of past paper questions, online programming tasks, independent research, flipped learning and GCSE POD.	Homework will be issued every 2 weeks. This will build and extend learning in this topic. Homework will consist of a mixture of past paper questions, online programming tasks, independent research, flipped learning and GCSE POD.

Cultural enrichment including Trips, Visits, Experiences, Extra-curricular	Videos will be used to support students learning. Coding club will be available as an enrichment.	Coding club will be available as an enrichment	Coding club will be available as an enrichment
Numeracy and Literacy	Computing is very logical and requires various techniques using operators and mathematical concepts. Key word lists and practice writing long answered exam questions. Students will be programming and must ensure all spellings and grammar are correct otherwise programs will not work.	Computing is very logical and requires various techniques using operators and mathematical concepts. Key word lists and practice writing long answered exam questions. Students will be programming and must ensure all spellings and grammar are correct otherwise programs will not work.	Computing is very logical and requires various techniques using operators and mathematical concepts. Key word lists and practice writing long answered exam questions. Students will be programming and must ensure all spellings and grammar are correct otherwise programs will not work.
CIAG	During this term there will be a dedicated careers lesson where we will discuss all of the possible career paths in Computer Science. Possible School Trip to either Science museum or Pleasure beach	Discussions with an ICT specialists from industry arranged through computing at school	Learn how to take apart and rebuild a computer.

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Key Stage 4 Long Term Planning

Year 11 2021-22 SYLLABUS: Pearson/Edexcel GCSE Computer Science. Pupils will develop their independent skills to create complex computer programs and will be able to explain how networks are used to share information. In addition, they will be able to explain the impact of ICT on society.

Curriculum Area: Business Technology (Computing)

Year 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Syllabus	Topic 4: Networks Topic 6: Problem Solving with Programming	Topic 5: Issues and Impact Topic 6: Problem Solving with Programming	Revision Topics: 2 and 3	Revision Topics: 4 and 5	Revision of topics: 1/6
Connections to prior learning	Students will build on the knowledge on networks taken from the KS3 unit in year 9. They will also continue working on problem solving and programming which they will learn continuously throughout KS4.	Students will have some prior knowledge of the impact and issues of technology; this will be briefly covered in Y7 e-safety and Y9 computers. Students may also hear about the impact of technology in the news. They will also continue working on problem solving and programming which they will learn continuously throughout KS4.			
Knowledge	Pupils will understand how network are created and analyse the different types. They will be able to comprehensively explain the differences between wired and wireless connections. They will also be able to explain issues surrounding the security of networks and how they are kept safe.	Pupils will be able to understand the impact of technology on society. They will also be able to explain the legal impact when using technology.	Pupils will be required to revise and practice exam questions on this section of the course.	Pupils will be required to revise and practice exam questions on this section of the course.	Pupils will be required to revise and practice exam questions on this section of the course.
Skills	Pupils will be able to form different network topologies. They will be able to recommend a type of a network in each scenario. They will recognise the	Pupils will be able recommend how to become more energy efficient when using a computer. They will also be able to explain	Pupils will develop exam answering techniques.	Pupils will develop exam answering techniques.	Pupils will develop exam answering techniques.

	different components in the internet. Pupils will develop their exam answering technique in preparation for 6 mark questions.	the ethical, moral and legal issues on society. Pupils will develop their exam answering technique in preparation for 6 mark questions.			
Assessment	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.	Pupils will be required to compete an assessment based on the previous unit and prior knowledge using exam styles questions. PLC checklists will be used to self-assess knowledge. The assessment will be based on a random selection of previous topics.
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Cultural enrichment including Trips, Visits, Experiences, Extra-curricular	Videos will be used to support students learning.	A CAS specialist will be invited in to share his expertise in coding.	Coding club will be available as an enrichment	Coding club will be available as an enrichment	
Numeracy and Literacy	Computing is very logical and requires various techniques using operators and mathematical concepts. Key word lists and practice writing long answered exam questions. Students will be programming and must ensure all spellings and grammar are correct otherwise programs will not work.	Computing is very logical and requires various techniques using operators and mathematical concepts. Key word lists and practice writing long answered exam questions. Students will be programming and must ensure all spellings and grammar are correct otherwise programs will not work.	Computing is very logical and requires various techniques using operators and mathematical concepts.	Computing is very logical and requires various techniques using operators and mathematical concepts.	Computing is very logical and requires various techniques using operators and mathematical concepts.

CIAG	Talk from ACO regards the school virtual servers.	Business case study on how businesses have dealt with cyber security issues.			