



Denton Community College

Departmental Curriculum Map

Subject: Computer Science



Year Group:11

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Topics	Topic 1 – Computational Thinking	Topic 3 – Computer	Topic 4 - Network	Topic 6 - Programming	Exam preparation
What will students during this unit?	<p>Students learn about problem solving strategies and different types of sorts and searches. There is a focus on algorithms, decompositions, abstraction and generalisations.</p> <p>Programming key concepts are focused on 1 lesson every 2 weeks.</p>	<p>Students look at the inner workings of a computer. This includes the CPU, RAM, ROM, storage and the communication between them. Software is included such as different types, functions and purposes.</p> <p>Programming key concepts are focused on 1 lesson every 2 weeks.</p>	<p>Students learn about network hardware, topologies, protocols and security.</p> <p>Programming key concepts are focused on 1 lesson every 2 weeks.</p>	<p>Students should be able to apply their knowledge and understanding to work independently solving problems within python. Trinket and/or Repl.IT will be used</p>	<p>Students will focus on revising for their forthcoming GCSE exam. External providers will be used to provide advice regarding revision techniques and strategies. In addition, we will use more online services such as ComputerscienceUK, Seneca Learning and Smart Revise.</p>
When will students be assessed?	<ul style="list-style-type: none"> • Low stakes quiz every lesson. • End of topic assessment 	<ul style="list-style-type: none"> • Low stakes quiz every lesson. • End of topic assessment 	<ul style="list-style-type: none"> • Low stakes quiz every lesson. • End of topic assessment 	<ul style="list-style-type: none"> • Low stakes quiz every lesson. • End of topic assessment 	<ul style="list-style-type: none"> • Low stakes quiz every lesson. • End of topic assessment
How will students be assessed?	<ul style="list-style-type: none"> • Low stakes lesson quiz, which implement a “retrieval practice” structure. • Written topic test paper 	<ul style="list-style-type: none"> • Low stakes lesson quiz, which implement a “retrieval practice” structure. • Written topic test paper 	<ul style="list-style-type: none"> • Low stakes lesson quiz, which implement a “retrieval practice” structure. • Rubric used to assess written code 	<ul style="list-style-type: none"> • Low stakes lesson quiz, which implement a “retrieval practice” structure. • Rubric used to assess written code 	<ul style="list-style-type: none"> • Low stakes lesson quiz, which implement a “retrieval practice” structure. • Written topic test paper
Key Vocabulary	Abstraction, Decomposition, Algorithm, Pattern Recognition. Bubble, merge sorts. Linear and binary searches	Computer components, ROM, RAM, CPU, Hardware, Application, utility and system software, Open source,	HTTPS, Protocols, Rules, Security, Malware, vulnerabilities	Abstraction, decomposition, algorithm, pattern recognition, Programming constructs	

		Off the shelf, Proprietary and bespoke		selection, sequence and iteration. Test, valid, erroneous	
Homework opportunities to broaden or deepen student knowledge	Seneca Learning is used for homework which encourages students to independently revise. Students also have opportunities to improve their problem solving skills via Cyber Discovery. Finally, students can perfect their python programming skills, knowledge and understanding via Seneca Learning, is tracked on the Student Progress Tracker.	Seneca Learning is used for homework which encourages students to independently revise. Students also have opportunities to improve their problem solving skills via Cyber Discovery. Finally, students can perfect their python programming skills, knowledge and understanding via Seneca Learning, is tracked on the Student Progress Tracker.	Seneca Learning is used for homework which encourages students to independently revise. Students also have opportunities to improve their problem solving skills via Cyber Discovery. Finally, students can perfect their python programming skills, knowledge and understanding via Seneca Learning, is tracked on the Student Progress Tracker.	Seneca Learning is used for homework which encourages students to independently revise. Students also have opportunities to improve their problem solving skills via Cyber Discovery. Finally, students can perfect their python programming skills, knowledge and understanding via Seneca Learning, is tracked on the Student Progress Tracker.	Seneca Learning is used for homework which encourages students to independently revise. Students also have opportunities to improve their problem solving skills via Cyber Discovery. Finally, students can perfect their python programming skills, knowledge and understanding via Seneca Learning, is tracked on the Student Progress Tracker.
Links to the National Curriculum	<ul style="list-style-type: none"> develop and apply their analytic, problem-solving, design, and computational thinking skills develop their capability, creativity and knowledge in computer science, digital media and information technology 	<ul style="list-style-type: none"> develop and apply their analytic, problem-solving, design, and computational thinking skills develop their capability, creativity and knowledge in computer science, digital media and information technology 	<ul style="list-style-type: none"> develop and apply their analytic, problem-solving, design, and computational thinking skills develop their capability, creativity and knowledge in computer science, digital media and information technology 	<ul style="list-style-type: none"> develop and apply their analytic, problem-solving, design, and computational thinking skills develop their capability, creativity and knowledge in computer science, digital media and information technology 	<ul style="list-style-type: none"> develop and apply their analytic, problem-solving, design, and computational thinking skills develop their capability, creativity and knowledge in computer science, digital media and information technology