Denton Community College 2022/2023

Departmental Curriculum Map

Subject: Computer Science Year Group:10

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Topic 2 - Data	Topic 5 – Ethical, legal, cultural and environmental aspects of IT	Topic 6 - Programming	Topic 6 - Programming	Topic 4 - Networks	Topic 3 – Networks / Revision / Mock assessment
What will students during this unit?	Units of data, base 2 and 16 number systems. Audio, graphical and character data representation. Programming concepts are focuses on 1 lesson every 2 weeks.	Students look at the main issues surrounding these concepts. Links are made to recent news. Students explore the pros and cons of digital advancements. Programming concepts are focuses on 1 lesson every 2 weeks.	Students focus on programming within python. Students start with turtle, then basic sequential programming before applying more concepts to solve more complex problems. The PRIMM process is followed throughout to support students in reading code. Trinket and/or Repl.IT will be used. Will also be taught discretely during other topics.	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. Will also be taught discretely during other topics.	Students learn about how digital devices communicate with each other and how they obtain data. WAN, LAN's, Client and Peer-2-peer servers are included. Together with looking at topologies and protocols that digital devices must follow to receive data. Programming concepts are focuses on 1 lesson every 2 weeks.	Once the networks topic is completed, students will develop a range of strategies to help students revise. External partners will be asked to come in.
When will students be assessed?	• Low stakes quiz every lesson. • End of topic assessment	• Low stakes quiz every lesson. • End of topic assessment	• Low stakes quiz every lesson. • End of topic assessment	• Low stakes quiz every lesson. • End of topic assessment	• Low stakes quiz every lesson. • End of topic assessment	• Low stakes quiz every lesson. • End of topic assessment
How will students be assessed?	• Low stakes lesson quiz, which implement a "retrieval practice" structure.	• Low stakes lesson quiz, which implement a "retrieval practice" structure.	• Low stakes lesson quiz, which implement a "retrieval practice" structure.	• Low stakes lesson quiz, which implement a "retrieval practice" structure.	• Low stakes lesson quiz, which implement a "retrieval practice" structure.	• Low stakes lesson quiz, which implement a "retrieval practice" structure.

	• Written topic test paper	• Written topic test paper	• Rubric used to assess written code	• Rubric used to assess written code	• Written topic test paper	• Mock assessment
Key Vocabulary	Binary, Hexadecimal, Denary, Conversion, Abstraction, Decomposition, Algorithm, Pattern Recognition, Computer components, Application, utility and system software, Units of data.	Primary, secondary key, relational database. Data Types, Ethical, Legal, Environmental, Cultural impact, Users, Business and digital commerce, AND, OR, NOT, Logic Gates, Expression.	Abstraction, decomposition, algorithm, pattern recognition, Programming constructs selection, sequence and iteration. Test, valid, erroneous.	Abstraction, decomposition, algorithm, pattern recognition, Programming constructs selection, sequence and iteration. Test, valid, erroneous.	HTTPS, Protocols, Rules, Security, Malware, vulnerabilities.	Network, Data Packets, WWW, HTTPS, Protocols, Rules, Security, Malware, vulnerabilities.
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.	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	• 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	• 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	• 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	• 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	• 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	• 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