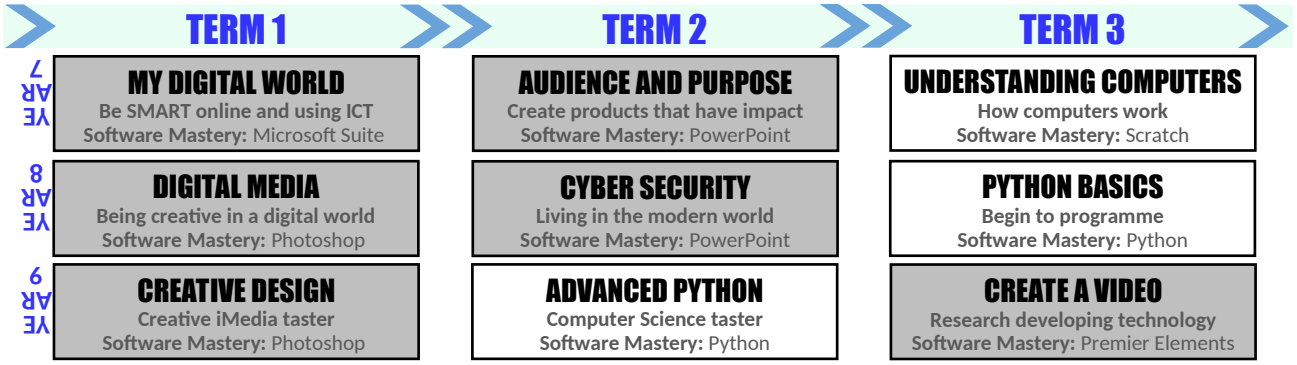
LEARNING JOURNEY GCSE Computer Science
YEAR 11 – Computer Science: TERM 1

J277/01 – COMPUTER SYSTEMS

PRIOR LEARNING (from Key Stage 3):



Aim of the Unit

In this unit students will learn how to develop an understanding of Computer Networks. Students will learn how to approach problems by breaking them down using specific methods. Students will also learn how to develop an algorithm as well as techniques used to search and sort data sets.

Topics to be covered:

- The Internet
- Types of Networks
- Network standards and protocols

Assessment Procedure

The topics covered in this unit, will help prepare students for some of the theory needed for Paper 1. This will be examined at the end of Year 11 and is worth 50% of the final mark for the course. During the lessons, students will undertake informal MCQ (multiple choice questions) to diagnose misconceptions. They will then undertake an end of unit assessment. The assessment will be out of 50 marks.

Homework

Homework will be set at least once a week. Seneca assignments will be assigned to help with knowledge retrieval in the run up to assessments. Details of individual homework can be found on Synergy.

How can you help?

Encourage your child to attend sessions with their teacher after school to improve their understanding. They should also review their theory regularly at home, as well as complete homework's thoroughly as they are all from past exam papers. Support is also available through explainer videos contained on the class team's page.

Unit 3 – COMPUTER NETWORKS, CONNECTIONS AND PROTOCOLS (Knowledge & Skills)				
3.1 The internet and wide area networks	Date:	J	K	L
IP Address | DNS (Domain name system) | URL (Uniform resource locator) |MAC addressing | Wide Are Networks | Circuit Switching | Packet Switching				
3.2 Local area networks	Date:	J	K	L
LAN | WAN | Topologies | Star | Mesh |Routers | Switches | Network Interface Card |Ethernet| Transmission media				
3.3 Wireless networking	Date:	J	K	L
Wi-Fi| Wireless Access Point |Hotspots |Bluetooth | Encryption | Plaintext | Ciphertext | Encryption | key | Encryption Algorithm | Asymmetric encryption				
3.4 Client-server and peer-to-peer networks	Date:	J	K	L
Client |Server |File Server| Web Server| Email Server | Peer to peer | Hosting | The cloud | DNS | File Transfer Protocol | Bandwidth |Number of devices connected | Latency | Errors in transmission | Interference				
3.5 Standards, protocols and layers	Date:	J	K	L
Network Standards | Connectivity| Cabling | Ethernet | Protocol (rule) | TCP/IP | HTTP | HTTPS | FTP | POP | IMAP | SMTP | Layers | Application Layer | Transport Layer | Internet Layer | Link Layer				

Revision, Test and Closing the Gap for topics covered so far	
TEST RESULT:	**Target Grade:**
Mark:	**Percentage:**
Grade:	**On target?**

FUTURE LEARNING: