Unit Overview: !.2.3 Units, 1.2.4 Data Storage, 1.2.5 Compression & 1.3 networks and topologies								
Half- Term:	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2	**No of Lessons:**	

Key Focus for Unit:

What is the key knowledge being delivered?
What is the intent of this unit?

This unit of work

- Networks
- Types of Networks (LAN & WAN)
- Star and Mesh network topologies
- Factors that affect the performance of a network
- The different roles of computers in a client-server and a peer-to peer network
- Hardware needed for stand alone to connect to Local are Network (Wireless access points, Routers, Switches, NIC (Network Interface Controller/Card), Transmission media
- Internet DNS (Domain Name Server), Hosting, The Cloud, Web servers and clients
- Types of connections (Wired: Ethernet & Wireless: WI-FI, Bluetooth)
- Encryption
- IP addressing and MAC addressing
- Standards
- Concept of layers

Key Knowledge and Big Ideas:

*What **Powerful Knowledge** and **Big Ideas** are explored in this Unit?*
*How have these progressed from previous learning? What **gaps in knowledge** have you identified from **baselining** and how are the being closed?*

Powerful Knowledge

Why are networks so important?
Why is compression necessary?
Factors that affect network performance

Big idea

How is digital data transferred across the world?

Gaps in learning

Students demonstrated the following in their baseline test:

1. Students are not aware of network hardware components.

Unit Assessment:

How will this unit be assessed?
What is the frequency of assessments – baselines etc?

Assessment: End of topic assessments on paper, in class
Questions based on 1, 2, 4, 6 and 8 mark questions totalling 45-50marks, Exam style.
Frequency of assessment:

- Retrieval starters
- Stretch tasks each lesson.
- Homework online quizzes to support 3 lesson a week
- Revision in textbook before assessment
- Practice of types of questions in class

Key Skills Explored	Vocabulary Selected for DVI	Links to Previous Unit
• Designing a network • Encrypt an decrypt messages	• Network • Topology • Factors • Connections	Building on Data Representation unit in AUT2, Students need to understand how data is transferred from one place to another.

	• Encryption • Addressing • Standards • Layers • Network	Networks is the medium this is performed and students need to understand why data needs to be compressed and kept safe to be sent.
• Links to Careers/Employability	**<u>How does this unit prepare students for the next unit?</u>**	
Software Engineer Web Development Cyber Security Developer	Having learnt how data is transported, students will consider the legal, ethical and environmental issues with data. They will consider the consequences of data use in a digital world.	