EMMANUEL COLLEGE
THE BUSINESS AND COMPUTING DEPARTMENT
Year 11 Digital Information Technology

Year 11	Autumn, Half Term 1
Unit Title	Exploring the use of data dashboards
Key Question(s)?	How can data dashboards be used to draw conclusions and review data presentation methods?
Threshold Concepts	A data dashboard is a display of important information, using visual and other methods of presentation. Dashboards rely on data; in many situations that data comes from a secondary source and needs to be imported into the spreadsheet that feeds the data to the dashboard. Spreadsheets use formulae to do a wide range of calculations, including simple arithmetic through the complex statistical and engineering functions. Including: • Cell referencing • Decision making functions • Lookup functions • Count functions • Logical operators • Sorts and filters • Macros • Validation and verification Presenting the data on the dashboard clearly and effectively is important so users can understand and interpret the data.
Links to Prior Learning	Students will build upon the knowledge gained in Year 9 and Year 10, thinking about the use of data, how data is stored and how data is used to draw conclusions.
	Autumn, Halt Term 2, Spring Term
Unit title	Effective Digital Working Practices
Key Question(s)?	How do modern technologies impact on organisations? What threats exist to digital systems and how can they be managed? What constitutes responsible, legal and ethical use of data?
Threshold Concepts	Cloud storage is where files created and used on one or more computers or devices are stored and managed remotely. There are many different platforms available for organisations employees and stakeholders to use. Crossing platforms to use cloud based technologies is sometimes difficult. Many services use cloud technologies to store important data, which can be synchronised between different devices. Factors that organisations should consider when choosing cloud technologies include: • Disaster recovery • Data security • Compatibility

	• Maintenance
	Collaborative technologies enable staff within organisations to work together more effectively by allowing them to communicate and share information and documentation effectively.
	The ways that modern technologies impact on organisations include: • Infrastructure • Security • 24/7 access • Collaboration • Inclusivity • Accessibility • Working practices
	Cyber security is the combination of policies, procedures, technologies and the actions of individuals to protect from threats both internal and external.
	External threats to organisations include: • Hacking • Phishing • Pharming • Man-in-the-middle attacks
	Internal threats to digital systems and data security include: • Untrustworthy websites • Downloads from the internet • Disclosure of data • Stealing or leaking information • Use of portable storage devices • Overriding of security controls
	Organisations can protect against threats by using Firewalls, intelligent interface design, biometrics, passwords, anti-virus software, ethical hacking and penetration testing.
Link to Prior Learning	There is some link to KS3 computing with regards to the use of spreadsheets to complete calculations and present information in different ways.
Knowledge and Sequencing Rationale	In order to understand the importance of validation and verification learners must understand what data modelling is. This will allow them to see the benefit of and reason for having data that is valid and has been verified. Likewise, without an understanding of the importance of validation and verification learners may struggle to be able to create a data model that can be interrogated for trends, patterns, anomalies and errors with confidence. With an understanding of these concepts, learners will then be able to once again combine them with the project management concepts and knowledge to complete the second assignment brief and plan, create and review a data model to support decision-making. The above knowledge and skills are then combined with the effective working practices knowledge in preparation for the examination at the end of Year 11. Gaps in the timeline are there to accommodate the completion of coursework elements of the course.