KS4 Curriculum Overview: ICT

Rationale: In Year 10
The curriculum intent in subject area in Y10 is that students will apply the skills learnt in year 9 to the coursework assignment set by OCR Cambridge Nationals. Within this they will learn some of the skills necessary that link with the exams. They will need to identify skills that they have learnt in year 9 and apply it to the curriculum area.
R060: Data manipulation using spreadsheets This is assessed by completing a set assignment.

In this unit you will learn how to plan, design, create, test and evaluate a data manipulation spreadsheet solution to meet client's requirements. You will be able to evaluate your solution based on the user requirements. Topics include: Planning and designing the spreadsheet solution, Creating the spreadsheet solution, Testing the spreadsheet solution and Evaluating the spreadsheet solution.

R070: Using Augmented Reality to present information
Augmented Reality (AR) has made it possible to present information so that users can see more detail in items/ products with 2D or 3D images and can place the item digitally in their surroundings. AR provides increased engagement, interaction and a richer user experience. Businesses in different sectors such as IT, architecture, retail and hospitality, education and government are presenting information and/or products in a digital world using a range of digital devices. Augmented Reality software development kits (SDK) are used to create the AR product for different contexts. In this unit students will learn the basics of Augmented Reality (AR) and the creation of a model prototype product to showcase how it can be used appropriately for a defined target audience to present information. Students will also learn the purpose, use and types of AR in different contexts and how they are used on different digital devices. Students will develop the skills to be able to design and create an AR model prototype, using a range of tools and techniques. students will also be able to test and review their AR model prototype.

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points	Reading
Y10 Autumn	**Unit: R060 Data manipulation using spreadsheets**	OCR Set assessment. Have to have secure accounts. Students to work on solving independently	Set in line with School policy	OCR Assignment issued in June	Coursework – Plan and design a spreadsheet solution to meet client's requirements. Demonstrating a range of tools and techniques to create the solution in which must be tested.	Wireframe Flowcharts Formulas Functions Model subject specific-reading through spreadsheets
Y10 Spring	**Topic 4: Cyber security & legislation** Understand factors to be considered when collecting and processing data and storing data and information. Students will look at the threats that	End of unit assessment Threats PowerPoint and Prevention poster	Consequences of cyber security Cyber security Threats	Types of threats.PPT activity. 4.2 Vulnerabilities.PPT Impact of cybersecurity and loss worksheet Prevention methods poster Legislations Research	Key terminology used throughout the module Cyber-security Denial of service (DOS) Hacking, Black hat, Grey hat, White hat, Malware, social engineering, data destruction, data manipulation, data	social engineering malware hacking DDOS Cybersecurity Pre teaching

	exist when collecting and processing data and storing data/information. They will need to understand how they work and to prevent them .Main areas are social engineering, malware, hacking and DDOS. Alongside these threats students will look at cybersecurity from the physical variability to the Natural disasters and evaluate there impact an organisation and individuals in terms of financial, reputation, disruption and safety.				modification, data theft, identify theft, biometric devices, RFID, access rights, permissions, encryption software, data packets real-time backup, sector, intellectual property (IP), data controller, data subject, information commissioner.	Researching articles Guided reading
Y10 Summer	Unit R070: Using Augmented Reality to present information Topic 3 creating a AR (practice material) old NEA AR New out in June	OCR Set assessment. Have to have secure accounts. Students to work on solving independently	Thinking about the types of AR, match the examples to one of the types in the table . (student IT book p158)	OCR Assignment issued in June Purpose and Uses of Augmented Reality PPT 1.2 Types of Augmented Reality 1.3 Devices used with Augmented Reality Practice NEA	Key terminology used throughout the module <u>Knowledge</u> Students have knowledge of work sectors which they then develop how this can be used with AR Students learn the 3 types of AR and user interaction <u>Key words</u> Augment Virtual reality Extended reality (ER) Mixed reality (MR) Avatar Immersive Travel portal Anchor Computer vision QR code Accelerometer Digital compass Global positioning systems (GPS)	Augmented Reality (AR) Anchor Assets Layers Model subject specific-reading through Adobe Aero. Students using tools to demonstrate skills.

					Surface plane Student will have knowledge on purpose target audience from KS3 creative project and would know how to meet requirements from previous coursework. Coursework – Plan and design an Augmented Reality model protype to meet client's requirements. Demonstrating a range of tools and techniques to test and review the Augmented Reality (AR) model prototype	