AUTUMN 1		
	Year 10 IT WJEC (2022)	**Year 11 IT (BTEC)**
Unit	Functionality of different hardware devices/software/services provided by IT support	To investigate the role and impact of using data on individuals and organisations
Objectives	Understanding types of • computing devices • input devices • output devices • storage devices • internal components • ports • system software • applications software • utility software • specialist software • information handling software • open sources software • communication software • image capture and manipulation • webcam services • social networking • e commerce • banking • payroll • control processes • AI and expert systems • robotics and bionics • online shopping • online booking • registration systems	To understand the concepts of data and that data is meaningless without converting it into information by adding structure and context. To understand the different ways of representing information and will be able to explain situations where they would be used. To understand the methods that can be used to ensure data input is suitable and within boundaries so that it is ready to be processed. To understand how the data collection method and data collection features affect its reliability. To understand the factors that affect the quality of information and their impact on decision making. To understand that different types of organisation use data modelling to help make decisions. To understand the different threats that face individuals who have data stored about them.
NC links	B1, B2, B3	B1, B2, B3
Key Words	**Tier 2 identify, describe, explain, analyse** Software, hardware, input, process, output, social networking, e commerce, ports, devices	**Tier 2 analyse, evaluate, compare, discuss,** Characteristics, text, number, tables, graphs/charts, infographics, validation methods, proofreading, size of sample, big data, e-commerce, primary data, secondary data, sectors, data modelling, vulnerable groups
Homework	Working on coursework within school. Either at lunch/after school. Completing improvements.	Working on coursework within school. Either at lunch/after school. Completing improvements.
Career link (Unifrog)	User interfaces – programmer, cyber security specialist, computer game designer. Public needs – MP, Councillor,	User interfaces – programmer, cyber security specialist, computer game designer, web developer, security specialist, computer programmer, software application developer, computer system engineer Spreadsheet – admin assistant, accountant, cost estimator, financial analyst, sales manager, teacher, sales/marketing manager, quality surveyor, analyst, receptionist
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
Common misconceptions	The security methods and infrastructure required to support online services.	Data analysis, big data, data, spreadsheets, database, formula, open questions, closed question, interview, sensors, military uses, benefits,
Assessment	End of objective assessments twice a half term. Working towards examination criteria.	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.

AUTUMN 2		
Unit	How data and information is used and transferred	Create a dashboard using data manipulation tools
Objectives	What data must be fit for purpose: • Data consists of raw facts and figure • Information and data processed by the computer • Applying rules to data and information • Speed and access of data and storage • File types • Data compression • File properties How data is checked for errors: • Data capture methods • Validation and verification • Sources of error • Problem solving How data transfers over different types of network The difference between LAN and WAN Protocols Bus, star and ring Packet sniffing Emerging technologies	Understand how data can be imported from an external source. They will then explore how to apply data processing methods. These include: data manipulation methods: • importing data, e.g. from other files, the internet • formulae, e.g. add, divide, subtract, multiply • decision-making functions, e.g. IF, WHATIF, SUMIF • lookup functions, e.g. VLOOKUP, HLOOKUP • string operation functions, e.g. LEFT, RIGHT • count functions, e.g. COUNTBLANK, COUNTIF • logical operators, e.g. NOT, AND, OR • sorting, e.g. sorting multiple columns and values • outline, e.g. group, ungroup, subtotal • filtering, e.g. greater than, less than, equals, contains, begins with, ends with • text to columns, e.g. delimited, fixed width. Other processing methods: • absolute and relative cell referencing, e.g. use of dollar sign ($) and named cells • macros, e.g. for automatic navigation, change graph options, change data ranges • data validation, e.g. list check, type check, length check • multiple and linking worksheets, e.g. for dashboard and raw data • cell comments • alternative views, e.g. hiding/unhiding cells, freezing planes • conditional formatting, e.g. data bars, colour scales, icon sets Use a dashboard to select and display information summaries based on a given large data set. Draw conclusions on the data set, using their dashboard in order to make recommendations.
NC links	B1, B2, B3	B1, B2, B3
Key Words	**Tier 2 identify, describe, explain, analyse** Extranet, intranet, topology, servers, packet sniffing, operation, protocol.	**Tier 2 analyse, evaluate, compare, discuss,** Importing, formulae, sorting, filtering, macros, relative cell referencing, conditional formatting, budget allocation, dropdown menus.
Homework	Topic based recall questions and past paper exam questions	Working on coursework within school. Either at lunch/after school. Completing improvements.
Career link (Unifrog)	User interfaces – programmer, cyber security specialist, computer game designer, web developer, security specialist, computer programmer, software application developer, computer system engineer Public needs – MP, Councillor,	Maths – spreadsheets, graph work, suitable charts for purposes, Logical THINKING, data types, integers, ratio, coordinates, cell referencing Geography – temperature charts, sea levels and comparisons between countries. English – audience
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
Common misconceptions	Students struggle to identify that risks can potentially put a project behind. Risks need to be identified and minimised prior to project beginning.	Incorrectly inserting data into spreadsheet, wrong formula used for purpose, incorrect links between sheets to dashboard.
Assessment	Homework and in class activities.	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.

SPRING 1		
Unit	Legal, moral, ethical impacts of IT for cybersecurity	Create a dashboard using data manipulation tools
Objectives	Risks to information held on computers: • Accidental damage • Unintended disclosure by incorrectly assigned access levels • Malicious software • Physical protection • Biometrics • Location of hardware • Back ups • Security staff • Security policies • Staff responsibilities • Disaster recovery • Acceptable policy Moral and ethical issues effecting computer use: • Privacy and security • Cookies and data collection • Monitoring • Impact of data loss • GDPR • DPA computer misuse Act • Communications Act • Regulation of investigatory powers	Understand how data can be imported from an external source. They will then explore how to apply data processing methods. These include: • data manipulation methods: • importing data, e.g. from other files, the internet • formulae, e.g. add, divide, subtract, multiply • decision-making functions, e.g. IF, WHATIF, SUMIF • lookup functions, e.g. VLOOKUP, HLOOKUP • string operation functions, e.g. LEFT, RIGHT • count functions, e.g. COUNTBLANK, COUNTIF • logical operators, e.g. NOT, AND, OR • sorting, e.g. sorting multiple columns and values • outline, e.g. group, ungroup, subtotal • filtering, e.g. greater than, less than, equals, contains, begins with, ends with • text to columns, e.g. delimited, fixed width. Other processing methods: • absolute and relative cell referencing, e.g. use of dollar sign ($) and named cells • macros, e.g. for automatic navigation, change graph options, change data ranges • data validation, e.g. list check, type check, length check • multiple and linking worksheets, e.g. for dashboard and raw data • cell comments • alternative views, e.g. hiding/unhiding cells, freezing planes • conditional formatting, e.g. data bars, colour scales, icon sets Use a dashboard to select and display information summaries based on a given large data set. Draw conclusions on the data set, using their dashboard in order to make recommendations. Assess how well they have used the presentation features
NC links	B1, B2, B3	B1, B2, B3
Key Words	**Tier 2 identify, describe, explain, analyse** Ethical, moral, legislation, privacy, policy, disclosure	**Tier 2 analyse, evaluate, compare, discuss,** Importing, formulae, sorting, filtering, macros, relative cell referencing, conditional formatting, budget allocation, dropdown menus.
Homework	Homework and in class activities.	Working on coursework within school. Either at lunch/after school. Completing improvements.
Career link (Unifrog)	Computer games developer, computer programmer, forensic computer analyst, software developer, network engineer, IT systems architect, CNC machinist	Maths – spreadsheets, graph work, suitable charts for purposes, Logical THINKING, data types, integers, ratio, coordinates, cell referencing Geography – temperature charts, sea levels and comparisons between countries. English - audience
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
Common misconceptions	Confusing different legislation, particularly GDPR and DPA.	Incorrectly inserting data into spreadsheet, wrong formula used for purpose, incorrect links between sheets to dashboard.
Assessment	Homework and in class activities. Past exam paper questions assessed against exam board marking criteria.	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.

SPRING 2		
Unit	The cultural and personal, environmental impact of ICT	Draw conclusions based on the data
Objectives	Employment patterns retraining Changes in working practices Teleworking Homeworking Videoconferencing Effect on transport Effect in traditional media Drones Green IT and non-green IT: • e-waste • rare earth element mining • global production lines • the digital divide • social media including cyberbullying and fake news net neutrality • addiction mental health • emerging technologies	Draw conclusions on the data set, using their dashboard in order to make recommendations. Assess how well they have used the presentation feature
NC links	B1, B2, B3	B1, B2, B3
Key Words	**Tier 2 identify, describe, explain, analyse** Cyberbullying. Net neutrality, collaboration, hot desk, trends, patterns	**Tier 2 analyse, evaluate, compare, discuss,** Pivot tables, trends, patterns, misinterpreted, recommendations, biased
Homework	Working on coursework within school. Either at lunch/after school. Completing improvements.	Working on coursework within school. Either at lunch/after school. Completing improvements.
Career link (Unifrog)	Network manager, IT support, network engineer, e-learning developer, IT teacher	User interfaces – programmer, cyber security specialist, computer game designer, web developer, security specialist, computer programmer, software application developer, computer system engineer Spreadsheet – admin assistant, accountant, cost estimator, financial analyst, sales manager, teacher, sales/marketing manager, quality surveyor, analyst, receptionist
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
Common misconceptions	Students will be unfamiliar that different organisations collect and use data on wide scale to make judgements and decisions.	Not able to draw conclusions or cross relate data with other focus.
Assessment	Green ICT written assessment – to assess designing a long answer question focusing on analysis and evaluative elements on the exam specification	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.
SUMMER 1		
Unit	Unit 2 -ICT in context Coursework unit	Draw conclusions based on the data
Objectives	2.1.1 Planning and designing a database Analyse requirements to a specified client brief Identify success criteria Identify the different entities within a specified client brief Design and database structure including tables, relationships, forms, queries, reports fields, primary and foreign keys, data types, field properties, validation rules, minimising data redundancy. Justification for field types Justification of validation rules 2.1.2 Creating and adding tables	Draw conclusions on the data set, using their dashboard in order to make recommendations. Assess how well they have used the presentation feature.

	Creating a primary key Assigning correct data types Error messages Importing data from a CSV file Add, edit and delete records from the database.	
NC links	B1, B2, B3	B1, B2, B3
Key Words	**Tier 2 identify, describe, explain, analyse** Importing, formulae, sorting, filtering, macros, relative cell referencing, conditional formatting, budget allocation, dropdown menus.	**Tier 2 analyse, evaluate, compare, discuss,** Pivot tables, trends, patterns, misinterpreted, recommendations, biased
Homework	Working on coursework within school. Either at lunch/after school. Completing improvements.	Working on coursework within school. Either at lunch/after school. Completing improvements.
Career link (Unifrog)	Maths – spreadsheets, graph work, suitable charts for purposes, Logical THINKING, data types, integers, ratio, coordinates, cell referencing Geography – temperature charts, sea levels and comparisons between countries. English - audience	User interfaces – programmer, cyber security specialist, computer game designer, web developer, security specialist, computer programmer, software application developer, computer system engineer Spreadsheet – admin assistant, accountant, cost estimator, financial analyst, sales manager, teacher, sales/marketing manager, quality surveyor, analyst, receptionist
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
Common misconceptions	Lack of previous experience of using databases to edit data.	Not able to draw conclusions or cross relate data with other focus.
Assessment	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.
SUMMER 2		
Unit	Interrogating a database	
Objectives	Creating and selecting queries, suing a query builder including single table/criteria: multiple tables/ criteria: wildcard, parameter and calculations. Produce reports from queries, with at least one report showing customisation for fitness of purpose.	
NC links	B1, B2, B3	
Key Words	**Tier 2 identify, describe, explain, analyse** Query, report, criteria, error, outputs, wildcard, parameter	
Homework	Working on coursework within school. Either at lunch/after school. Completing improvements.	
Career link (Unifrog)	User interfaces – programmer, cyber security specialist, computer game designer, web developer, security specialist, computer programmer, software application developer, computer system engineer	
Employability skills (Highlight applicable)	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	
Common misconceptions	Not able to draw conclusions or cross relate data with other focus.	
Assessment	Students will be completing an entirety of a piece of coursework. They will all be working to aim for Distinction level with all the necessary tasks to be completed. Each student will constantly be given updated task sheets in which they need to complete to attain next grade.	