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Level 1/2 Vocational Award in ICT (Technical Award)

Teaching from 2022 | Award from 2024

Version 3 September 2023

SPECIFICATION





WJEC Level 1/2 Vocational Award in ICT (Technical Award)

SPECIFICATION

For teaching from 2022 For award from 2024

| Version | Description | Page number |
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| 2 | COUNTIF removed from simple functions list, section 2.2.4 | 19 |
| 3 | Clarification of internal assessment arrangements | 24 |
| | Clarification of terminal rule | 26 |

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| Qualification Title | WJEC Level 1/2 Vocational Award in ICT (Tech Award) |
|----------------------------|--|
| DfE Qualification Type | Technical Award |
| Ofqual QN | 603/7018/X |
| QiW number | C00/4459/9 |
| WJEC Qualification Code | 5539 |
| DfE Discount Code | |
| Age group approved for | 14+ |
| First teaching | September 2022 |
| First certification | January 2024 |
| Key documents | Sample Assessment Materials Administration Guide |
| Guidance for Teaching | Assessment Guide Delivery Guide Unit 1 Guidance for Teaching Unit 2 Guidance for Teaching |

1. Qualification Overview

1.1 Who is this for?

WJEC Level 1/2 Vocational Awards (Technical Awards) provide learners with opportunities to study vocational subjects alongside GCSEs and other general and vocational qualifications as part of a broad programme of study.

They are primarily designed for learners aged 14-16 and offer an experience that focuses on applied learning, i.e., acquiring and applying knowledge, skills and understanding through purposeful tasks set in sector or subject contexts that have many of the characteristics of real work.

Level 1/2 Vocational Awards (Technical Awards) available in 9 subject areas, listed below, meet Ofqual and DfE requirements for the KS4 performance table qualifications.

- Construction and the Built Environment
- Engineering
- Global Business Communication (French, German, Spanish)
- Health and Social Care
- Hospitality and Catering
- ICT
- Performing Arts
- Retail Business
- Sport and Coaching Principles

1.2 Sector overview for WJEC Level 1/2 Vocational Awards in ICT (Technical Awards)

The Organisation for Economic Co-operation and Development (OECD) identifies digital sector industries (including Information, Communication and Technology - ICT) activities as follows: "*The production (goods and services) of a candidate industry must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display.*"¹ The UK is the leading destination in Europe for inward investment into the digital sector, attracting £6.7 billion in 2016 (50% higher than any other European country²). Global tech companies have announced significant investments in the UK since the referendum to leave the EU.³ However, the reported digital skills shortage in the UK⁴ highlights the importance of qualifications in developing the digital skills of young people.

1.3 Qualification Objective

The Vocational Award in ICT has been designed to support learners in schools who want to learn about this vocational sector and the potential it can offer them for their careers or further study. It is most suitable as a foundation for further study. This further study would provide learners with the opportunity to develop a range of specialist and general skills that would support their progression to employment.

⁴ Organisation for Economic Co-operation and Development (2002) Measuring the Information Economy. Paris: OECD publications. © WJEC CBAC Ltd.

¹ <u>http://www.oecd.org/internet/ieconomy/2771153.pdf</u>

² <u>https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-2017-employment-and-trade</u>

³ https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral%20Analyses/36-Technology-ICT-Report%20FINAL.pdf

1.4 Prior Learning requirements

Although there are no formal entry requirements, learners would find the following learning skills and aptitudes helpful: basic proficiency in literacy and numeracy, aptitude for working with computers and motivation to work independently.

1.5 Equality and fair access

This specification may be followed by any learner, irrespective of gender, ethnic, religious or cultural background. It has been designed to avoid, where possible, features that could, without justification, make it more difficult for a learner to achieve because they have a particular protected characteristic.

The protected characteristics under the Equality Act 2010 are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation, marriage and civil partnership.

The specification has been discussed with groups who represent the interests of a diverse range of learners, and the specification will be kept under review.

Reasonable adjustments are made for certain learners in order to enable them to access the assessments (e.g. candidates are allowed access to a Sign Language Interpreter, using British Sign Language). Information on reasonable adjustments is found in the following document from the Joint Council for Qualifications (JCQ): Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications.

This document is available on the JCQ website (www.jcq.org.uk). As a consequence of provision for reasonable adjustments, very few learners will have a complete barrier to any part of the assessment.

1.6 What will learners study?

This is a unitised qualification consisting of two mandatory units:

| Unit | Title | Assessment | GLH |
|------|----------------|------------|-----|
| 1 | ICT in Society | External | 48 |
| 2 | ICT in Context | Internal | 72 |

2. Specification at a glance

2.1 Subject content

Unit 1 allows learners to explore the wide range of uses of hardware, application and specialist software in society. Learners will investigate how information technology is used in a range of contexts, including business and organisations, education and home use of information technology (page 8).

Unit 2 introduces learners to a broad working knowledge of databases, spreadsheets, automated documents and images and enables learners to apply their knowledge and understanding to solve problems in vocational settings (page 15).

2.2 Assessment Overview

| Summary of Assessment | |
|---|----------|
| Unit 1: ICT in Society | |
| On-screen examination: 1 hour 20 minutes | |
| 40% of qualification | |
| | 80 marks |
| Questions requiring objective responses, short and extended answers, based around applied situations. Learners will be required to use stimulus material to respond to questions. | |
| Unit 2: ICT in Context | |
| Controlled assessment: 40 hours | |
| 60% of qualification | |
| 1 | 20 marks |
| An assignment brief will be provided by WJEC which will include a scenario and several tasks available via the WJEC Secure Website. | |

2.3 Assessment Objectives

Below are the assessment objectives for this specification. Learners must:

A01

Demonstrate knowledge and understanding from across the specification.

AO2

Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks.

AO3

Analyse and evaluate information, making reasoned judgements and presenting conclusions.

The table below shows the weighting of each assessment objective for each unit and for the qualification as a whole.

| | A01 | AO2 | AO3 | Total |
|-------------------|-----|-----|-----|-------|
| Unit 1 | 20% | 15% | 5% | 40% |
| Unit 2 | 10% | 35% | 15% | 60% |
| Overall weighting | 30% | 50% | 20% | 100% |

3. Units

3.1 Unit format

| Unit title: | Summarises, in a concise manner, the content of the unit. |
|------------------------------|---|
| Guided learning hours (GLH): | Guided learning means activities such as classroom-based learning, tutorials and online learning, which is directly supervised by a teacher, tutor or invigilator. It also includes all forms of assessment which take place under the immediate guidance or supervision of a teacher, supervisor or invigilator. GLH has been allocated per unit to support delivery. It is acceptable for centres to deliver this qualification holistically and, therefore, hours per unit are a recommendation only. |
| Vocational context: | Provides a vocational rationale for the content of the unit. |
| Overview of unit: | Provides a summary of the unit content. It sets the context of the unit and highlights the purpose of the learning in the unit. |
| Topics: | Includes the list of topics covered by the unit. |
| Assessment: | Summarises the assessment method for the unit. |

3.2 Amplification

The amplification provided in the right-hand column uses the following four stems:

- 'Learners should know' has been used for the recall of facts such as: legislation and definitions.
- 'Learners should know and understand' has been used for the majority of the unit content where knowledge needs to lead to a sense of understanding.
- 'Learners should be aware of' has been used when the volume of content is quite extensive, and learners do not need to understand all aspects in detail.
- 'Learners should be able to' has been used when learners need to apply their knowledge to a scenario or practical situation.

The subject content is presented in two units, each sub-divided into clear and distinct topic areas. Within each topic area the knowledge, understanding and skills are set out with an initial overview and then in two columns. The left-hand column identifies the content to be studied. The right-hand column provides amplification of the knowledge, understanding and skills that learners should develop in this area. Together, these two columns give the full content of the specification. There is no hierarchy implied by the order in which the content is presented, and the order does not imply a prescribed teaching order.

The amplification provided in the right-hand column includes all of the assessable content for the relevant section, unless it states, 'e.g.,' 'including' or 'such as'. In these cases, the amplification lists relevant content, which should be expanded upon in an appropriate way, taking account of learners' needs and interests. The use of the word 'including' indicates compulsion (i.e., a question could be specifically set on that aspect). The use of the words 'e.g.,' or 'such as' are for guidance only, and an alternative can be chosen.

Unit 1

| Unit title | ICT in Society |
|--------------------|---|
| Unit entry code | 5539U1 |
| GLH | 48 |
| Vocational Context | Jobs in ICT exist in a variety of contexts. However, there are key areas of knowledge that any ICT specialist will be required to know. This base knowledge allows them to provide the best service and advice possible for their clients and the industries they are working in. |
| Overview of unit | This unit allows learners to explore the wide range of uses of hardware, application and specialist software in society. They will investigate how information technology is used in a range of contexts, including business and organisations, education and home use. |
| Topics | 1.1 How IT can be used to fulfil the needs of organisations⁵ and individuals 1.2 How data and information is used and transferred 1.3 Legal, moral, ethical, cultural and environmental impacts of IT and the need for cybersecurity |
| Assessment | This unit is externally assessed through a written examination. |
| | Number of marks: 80 |
| | <i>Format:</i> Questions requiring objective responses, short and extended answers, based around applied situations. Learners will be required to use stimulus material to respond to questions. |
| | This assessment contributes 40% to the overall qualification grade. |

 $^{^{\}rm 5}$ 'Organisations' – Encompasses government, private, public and third sector organisations and industries. © WJEC CBAC Ltd.

1.1 How IT can be used to fulfil the needs of organisations and individuals

In this topic learners will gain knowledge and understanding of the:

- **1.1.1** Functionality of different hardware devices
- 1.1.2 Functionality of different software
- 1.1.3 Services provided by IT

| 1.1.3 Services provided by | |
|----------------------------------|--|
| Content | Amplification |
| 1.1.1 | Learners should know and understand types of: |
| Functionality of different | computing devices |
| hardware devices | input devices |
| | output devices |
| | storage devices |
| | basic internal components |
| | • ports. |
| 1.1.2 | Learners should know and understand: |
| Functionality of different | system software |
| software | applications software |
| | utility software |
| | specialist software |
| | information handling software |
| | open source software |
| | communication software. |
| 1.1.3 Services provided by IT | Learners should be aware of how each service improves efficiency/productivity for businesses and/or individual users: • Smart TV |
| | |
| | gamingimage capture and manipulation |
| | webcam services |
| | social networking: information needed to create accounts; services available |
| | music and sound including downloading from the Internet and related issues |
| | mobile phones |
| | banking |
| | E-commerce systems |
| | • payroll |
| | modern mail handling methods |
| | control processes (feedback) |
| | robotics and bionics |
| | artificial intelligence (AI) and expert systems |
| | online shopping and searching for products on websites |
| | booking online |
| | registration systems |

| | management information systems |
|---|---|
| | weather forecasting systems |
| | remote storage technologies |
| | online education and blended learning |
| | security systems |
| | accessibility |
| | virtual reality and augmented reality |
| | • 3D Printing |
| | wearable technologies |
| | cloud computing |
| | disabled accessibility |
| | emerging technologies. |
| 1 | |

1.2 How data and information is used and transferred

In this topic learners will gain knowledge and understanding of:

- 1.2.1 Why data must be fit for purpose
- 1.2.2 How input data is checked for errors
- **1.2.3** How data transfers over different types of network
- 1.2.4 Different types of connectivity

| Content | Amplification |
|--|--|
| 1.2.1 Why data must be fit for purpose | Learners should know and understand: that data consists of raw facts and figures that information is data which has been processed by the computer that knowledge is derived from information by applying rules to it the need for good quality data the potential benefits of encoding data and the reasons for doing it improvements in speed of access to data and increased storage advantages and disadvantages of using information and communication technology for storing data file types data compression file properties. |
| 1.2.2 How input data is checked for errors | Learners should know and understand: data capture methods methods used for validation and verification and where they are appropriate possible sources of error which could exist techniques used to overcome these errors. |
| 1.2.3 How data transfers over different types of network | Learners should know and understand: the differences between local (LAN) and wide area (WAN) networks the purpose of protocols computer network operation network topologies including bus, star and ring internet/extranet/intranet devices within a network how data is transferred over a network potential threats to data transfer (e.g., packet sniffing) cloud computing vs in-house servers emerging technologies. |

| 1.2.4 Different types of connectivity | earners should know and understand: connection methods short range wireless connection (802.11 Bluetooth), near-field communication (NFC) and radio-frequency Identification (RFID) medium range wireless connection (3G/4G/5G) long range wireless connection (microwave, satellite) | |
|---|--|--|
| | ethernet, USB, micro USB and USB Cemerging technologies. | |

1.3 Legal, moral, ethical, cultural and environmental impacts of IT and the need for cybersecurity

- 1.3.1 Risks to information held on computers
- **1.3.2** The impact of data loss, theft or manipulation on individuals and businesses
- 1.3.3 Methods used to protect information
- 1.3.4 How moral and ethical issues affect computer users
- 1.3.5 How legal issues protect computer users
- **1.3.6** The cultural, personal and environmental impact of ICT
- **1.3.7** How a digital footprint can impact computer users

| Content | Amplification |
|---|---|
| 1.3.1 Risks to information held on computers | Learners should know and understand: accidental damage unintended disclosure by incorrectly assigned access levels malicious software including viruses, worms, Trojan Horses, spyware, ransomware, DDoS and key logging hacking (e.g., white, black and grey hat) social engineering emerging threats. |
| 1.3.2 The impact of data loss, theft or manipulation on individuals and businesses | Learners should know and understand: financial implications moral and legal implications (including competitor advantage, breaking of GDPR/DPA, open to blackmail) data manipulation loss of service loss of intellectual property loss of reputation. |
| 1.3.3 Methods used to protect information | Learners should know and understand: logical protection including access levels, authentication, firewalls, anti-malware applications, password protection and encryption physical protection including locks, biometrics, location of hardware, backup systems and security staff security policies including disaster recovery, staff responsibilities, acceptable use policy and staff training emerging technologies. |
| 1.3.4 How moral and ethical issues affect computer users | Learners should know and understand: privacy and security cookies and data collection by multinational companies monitoring of individuals impact of data loss or damage. |

| How legal issues protect computer users• General data protection regulation (GDPR) 2018 • Data protection act (DPA) 1998 • Computer misuse act 1990 • Communications act 2003 • Regulation of investigatory powers act 2016 • Copyright, designs and patents act 1988 • Health and safety legislation.1.3.6 The cultural, personal and environmental impact of ICTLearners should be aware of: • retraining • changes in working practices (e.g., collaboration, hot desking) • teleworking • videoconferencing • effect on transport • effect on transport • effect on transport • effect on transport • effect on traditional media • drones • green IT and non-green IT • e-waste • rare earth element mining • global production lines • the digital divide – local and global • social media including cyberbullying and Fake News • net neutrality • addiction • mental health • emerging technologies.1.3.7 How a digital footprint camputer users impact computer usersLearners should know and understand the potential effects of: • digital footprint – passive and active • posts on social media • online identity • identity theft | | | | |
|---|----------------------------|---|--|--|
| computer usersData protection act (DPA) 1998 Computer misuse act 1990 Communications act 2003 Regulation of investigatory powers act 2016 Copyright, designs and patents act 1988 Health and safety legislation.1.3.6Learners should be aware of: • employment patterns • retraining • changes in working practices (e.g., collaboration, hot desking) • teleworking • ideoconferencing • effect on transport • effect on transport • effect on traditional media • drones • green IT and non-green IT • e-waste • rare earth element mining • global production lines • the digital divide – local and global • social media including cyberbullying and Fake News • net neutrality • addiction • mental health • emerging technologies.1.3.7Learners should know and understand the potential effects of: • digital footprint can • posts on social media • online identity • josts o | | Learners should know: | | |
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| • Communications act 2003 • Regulation of investigatory powers act 2016 • Copyright, designs and patents act 1988 • Health and safety legislation. 1.3.6 The cultural, personal and environmental impact of LCTEvarners should be aware of: • employment patterns • retraining • changes in working practices (e.g., collaboration, hot desking) • teleworking • videoconferencing • effect on transport • enere enthelement mining • global production lines • net neutrality • addiction • mental health • emerging technologies.1.3.7 How a digital footprint case impact computer usersEvarners should know and understand the potential effects of: • digital footprint – passive and active • posts on social media • online identity • identity theft | computer users | | | |
| Regulation of investigatory powers at 2016 Copyright, designs and patents at 1988 Health and safety legislation. 1.3.6 The cultural, personal and environmental impact of ICT employment patterns changes in working practices (e.g., collaboration, hot desking)) teleworking ohomeworking videoconferencing effect on transport effect on transport effect on transport effect on traditional media drones green IT and non-green IT e-waste rare earth element mining global production lines the digital divide – local and global social media including cyberbullying and Fake News net neutrality addiction mental health emerging technologies. 1.3.7 How a digital footprint computer users posts on social media online identity | | Computer misuse act 1990 | | |
| Copyright, designs and patents act 1988 Health and safety legislation. 1.3.6 The cultural, personal and environmental impact of ICT employment patterns retraining changes in working practices (e.g., collaboration, hot desking) teleworking homeworking videoconferencing effect on transport effect on transport effect on traditional media drones green IT and non-green IT e-waste rare earth element mining global production lines the digital divide – local and global social media including cyberbullying and Fake News net neutrality addiction mental health emerging technologies. 1.3.7 How a digital footprint can impact computer users | | Communications act 2003 | | |
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| 1.3.6 The cultural, personal and environmental impact of ICTLearners should be aware of: • employment patterns • retraining • changes in working practices (e.g., collaboration, hot desking) • teleworking • videoconferencing • effect on transport • effect on transport • effect on transport • effect on traditional media • drones • green IT and non-green IT • e-waste • rare earth element mining • global production lines • the digital divide – local and global • social media including cyberbullying and Fake News • net neutrality • addiction • mental health • emerging technologies.1.3.7 How a digital footprint can impact computer usersLearners should be aware of: • digital footprint - passive and active • posts on social media • online identity • identity theft | | Copyright, designs and patents act 1988 | | |
| The cultural, personal and environmental impact of ICT• employment patterns • retraining • changes in working practices (e.g., collaboration, hot desking) • teleworking • teleworking • homeworking • videoconferencing • effect on transport • effect on transport • effect on traditional media • drones • green IT and non-green IT • e-waste • rare earth element mining • global production lines • the digital divide – local and global • social media including cyberbullying and Fake News • net neutrality • addiction • mental health • emerging technologies.1.3.7 How a digital footprint can impact computer usersLearners should know and understand the potential effects of: • digital footprint – passive and active • posts on social media • online identity • josts on social media • online identity • josts on social media | | Health and safety legislation. | | |
| environmental impact of ICT• retraining• retraining• changes in working practices (e.g., collaboration, hot desking)• teleworking• homeworking• videoconferencing• effect on transport• effect on traditional media• drones• green IT and non-green IT• e-waste• rare earth element mining• global production lines• the digital divide – local and global• social media including cyberbullying and Fake News• net neutrality• addiction• mental health• ermerging technologies.1.3.7How a digital footprint can impact computer users• digital footprint can impact computer users• online identity• online identity• identity theft | 1.3.6 | Learners should be aware of: | | |
| ICTIC retraining• changes in working practices (e.g., collaboration, hot desking)• teleworking• homeworking• videoconferencing• effect on transport• effect on transport• effect on traditional media• drones• green IT and non-green IT• e-waste• rare earth element mining• global production lines• the digital divide – local and global• social media including cyberbullying and Fake News• net neutrality• addiction• mental health• emerging technologies.1.3.7How a digital footprint can impact computer users• posts on social media• online identity• identity theft | The cultural, personal and | employment patterns | | |
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| addiction mental health emerging technologies. 1.3.7 How a digital footprint can impact computer users posts on social media online identity identity theft | | | | |
| mental health mental health emerging technologies. 1.3.7 How a digital footprint can impact computer users Digital footprint – passive and active posts on social media online identity identity theft | | | | |
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| 1.3.7Learners should know and understand the potential effects of:How a digital footprint can impact computer users- digital footprint – passive and active• posts on social media • online identity • identity theft | | | | |
| How a digital footprint can impact computer users digital footprint – passive and active posts on social media online identity identity theft | | | | |
| impact computer users • posts on social media • online identity • identity theft | 1.3.7 | Learners should know and understand the potential effects of: | | |
| online identity identity theft | = | digital footprint – passive and active | | |
| identity theft | Impact computer users | posts on social media | | |
| | | online identity | | |
| | | identity theft | | |
| the risks of inappropriate images. | | the risks of inappropriate images. | | |

Unit 2

| Unit title | ICT in Context | |
|--------------------|--|--|
| Unit entry code | 5539U2 | |
| GLH | 72 | |
| Vocational context | ICT usage is becoming increasingly widespread in day-to-day life, as people become progressively dependent on their digital devices. In 2018, Ofcom ⁶ reported that 78% of UK adults owned a smartphone and 64% of adults described the internet as 'an essential part of their life'. In the workplace, ICT is also vital for the smooth running of many everyday tasks as well as enabling organisations to operate in a more efficient manner. There are a number of key skills that employers look for which centre around having an understanding of, and the practical ability to use, a range of computer programmes, software and other applications. | |
| Overview of unit | This unit enables learners to gain a broad working knowledge of databases, spreadsheets, automated documents and images and to apply their knowledge and understanding to solve problems in vocational settings. Learners will need to draw on knowledge of: 1.1 How IT can be used to fulfil the needs of organisations and individuals 1.2 How data and information is used and transferred (particularly 1.2.1 Why data must be fit for purpose, and 1.2.2 How input data is checked for errors) | |
| Topics | 2.1 Planning, creating, modifying and using databases 2.2 Planning, creating, modifying and using spreadsheets 2.3 Planning, creating and modifying an automated document 2.4 Planning, creating, manipulating and storing images | |
| Assessment | This unit is internally assessed through controlled assessment. Learners will undertake a series of set tasks that are to be applied to a prescribed context set annually by WJEC and issued to centres in an assessment pack via the WJEC Secure Website. | |
| | This assessment contributes 60% to the overall qualification grade and the assessment will take 40 hours. | |

⁶ Ofcom (2018) A decade of digital dependency accessed at <u>https://www.ofcom.org.uk/about-ofcom/latest/features-and-news/decade-of-digital-dependency</u> © WJEC CBAC Ltd.

2.1 Planning, creating, modifying and using databases

- 2.1.1 Planning and designing a database
- 2.1.2 Creating and modifying a database
- 2.1.3 Interrogating a database
- 2.1.4 Creating user interfaces
- 2.1.5 Testing and evaluating a database

| Content | Amplification | |
|---|--|--|
| 2.1.1 Planning and designing a database | Learners should be able to: analyse requirements to a specified client brief identify success criteria identify the different entities within a specified client brief design a database structure including tables, relationships, forms, queries, reports, fields, primary and foreign keys, data types, field properties, validation rules minimising data redundancy give detailed justification for field types used justify their choice of validation rules applied to field types. | |
| 2.1.2 Creating and modifying a database | Learners should be able to: create and add tables add fields create a primary key assign appropriate data types apply effective validation rules and error messages link tables using key fields and relationships import data from a given CSV file add, edit and delete records check and test data to ensure it is error-free check and test the database to ensure it functions correctly. | |
| 2.1.3 Interrogating a database | Learners should be able to: create select queries, using a query builder including single table/single criteria; multiple tables/multiple criteria; wildcard; parameter, calculations produce reports from queries, with at least one report showing customisation for fitness of purpose. | |

| 2.1.4 Creating user interfaces | Learners should be able to: create effective data entry forms that simplify data entry and navigation, include relevant fields and accept data and validation enhance layout of the form to include an image for business purposes add features and controls that make the system user friendly and allow the user to navigate records, forms, queries and reports easily, visual basic (VB) and/or macro. |
|---|---|
| 2.1.5 Testing and evaluating a database | Learners should be able to: provide a test plan and select a range of test data including valid, extreme and erroneous data give detailed reasons for all testing methods give evidence for the testing carried out to test plan including evidence of test pass/fail evaluate the testing successes and failures and identify improvements. |

2.2 Planning, creating, modifying and using spreadsheets

- 2.2.1 Planning and designing a spreadsheet
- 2.2.2 Creating and formatting a spreadsheet
- 2.2.3 Use of appropriate data formatting and adding suitable validation rules
- 2.2.4 Use of appropriate formulae and functions to meet set outcomes
- 2.2.5 Arranging, reducing and outputting data to help make decisions
- 2.2.6 Modifying data and formulae to model 'what if' scenarios
- 2.2.7 Testing and evaluating spreadsheets

| Content | Amplification | |
|--|---|--|
| 2.2.1 Planning and designing a spreadsheet | Learners should be able to: analyse requirements to a specified client brief identify success criteria design a spreadsheet structure including worksheets, navigation, formulae, tools and techniques to be applied. | |
| 2.2.2 Creating and formatting a spreadsheet | Learners should be able to: import data from a CSV file and generate content of their own enhance layout and format of the spreadsheet including font style; font size; enhanced grids/borders; titles; colours; merged cells; cell alignment; text wrap; headers or footers; forms; worksheet tab facilitate data entry through use of form controls, e.g., buttons, check box, drop-down lists, combo boxes, spinners, scroll bar define a print area in order to present a customer-friendly output create a navigation menu in order to customise and simplify the client's use of the workbook. | |
| 2.2.3 Use of appropriate data formatting and adding suitable validation rules | Learners should be able to use: data formatting, (e.g., currency, %, decimal places) conditional formatting use of date/time function facilitate data entry through use of validation form controls, e.g., drop-down lists, combo boxes, spinners, scroll bar validation checks, e.g., range, type, presence, format validation messages. | |

| 2.2.4 | Learners should be able to use: | |
|---|---|--|
| Use of appropriate | formula with single operator (+, -, *,/) | |
| formulae and functions to meet set outcomes | brackets to prioritise calculation | |
| meet set outcomes | simple function SUM, AVERAGE, MAX, MIN, RAND, COUNT, COUNTA, INT/ MOD | |
| | relative and absolute referencing | |
| | complex functions e.g., IF, nested IF, IF(OR), IF(AND), SUMIF, AVERAGEIF, VLOOKUP, COUNTIF, goal seek, pivot tables | |
| | macros to link native function. | |
| 2.2.5 | Learners should be able to: | |
| Arranging, reducing and | use sorting on single items | |
| outputting data to help | use sorting on multiple items | |
| make decisions | use filters | |
| | create a chart/graph with appropriate title legend axis labels and formatting. | |
| 2.2.6 | Learners should be able to use: | |
| Modifying data and | 'what if' investigations to change data | |
| formulae to model 'what if' scenarios | 'what if' investigations to change formula. | |
| 2.2.7 | Learners should be able to: | |
| Testing and evaluating spreadsheets | • provide a test plan and select a range of test data including valid, | |
| | extreme and erroneous data | |
| | • use a test table, based on the success criteria | |
| | give detailed reasons for all testing methods | |
| | give evidence for the testing carried out | |
| | evaluate the testing successes and failures and identify improvements | |
| | suggest how to implement these improvements. | |

2.3 Planning, creating and modifying an automated document

- 2.3.1 Planning and designing an automated document
- 2.3.2 Creating an effectively structured data source and linking this to a standard document
- 2.3.3 Appropriately structuring the content of the standard document and inserting fields as required
- 2.3.4 Merging and outputting final documents

| Content | Amplification | |
|---|--|--|
| 2.3.1 Planning and designing an automated document | Learners should be able to: analyse requirements to a specified client brief identify success criteria design a standard document including location of place holders, formatting and features to be used. | |
| 2.3.2 Creating an effectively structured data source and linking this to a standard document | Learners should be able to: create a standard document create a source document create appropriately divided fields create appropriate data within the fields create a link between the data source and standard document. | |
| 2.3.3 Appropriately structuring the content of the standard document and inserting fields as required | Learners should be able to: insert appropriate fields: address line; subject; salutation/ valediction; personalised content within document check accuracy: spelling; grammar; proofread add appropriate formatting and features: letterhead; watermark; autodate; alignment; set line spacing; justification; indexing; automatic fields; bullets; appropriate layout. | |
| 2.3.4 Merging and outputting final documents | Learners should be able to: complete the merge and check accuracy check formatting following insertion of merged data output merged documents evaluate the document and identify improvements. | |

2.4 Planning, creating, manipulating and storing images

- 2.4.1 Planning and designing an image
- 2.4.2 Creating and modifying an image using appropriate tools and techniques
- 2.4.3 Storing the image appropriately and outputting the final image in a format that is fit for purpose

| Content | Amplification | | |
|---|--|--|--|
| 2.4.1 | Learners should be able to: | | |
| Planning and designing an | analyse requirements to a specified brief | | |
| image | identify success criteria | | |
| | • plan design (sketches and layouts) with annotations | | |
| | identify and select image source self-taken (camera/scanner) images from 3rd party: images from internet or another secondary source | | |
| | identify key qualities of image (e.g., size, format) and limitations to editing | | |
| | identify any copyright or intellectual property rights and reference source. | | |
| 2.4.2 | Learners should be able to: | | |
| Creating and modifying an image using appropriate | compare file types (png, tiff, jpeg) and fitness for purpose (size, resolution, scalability) | | |
| tools and techniques | select software according to image type (vector/raster) | | |
| | select image properties (RGB/CMYK) and canvas size based on output requirements | | |
| | import image/create image using tools/create hybrid image | | |
| | use standard and advanced tools to create and modify image Standard: | | |
| | Select marquees, lassos, cut, copy, crop, move, group, rotate, distort, enlarge/shrink, magic wand, bring to front/send to back, brushes/pencil, adjust line thickness/style, simple lines, shapes, curves (freehand and auto), fill, add text, edit text | | |
| | Advanced: | | |
| | Blur, blend, smudge, sharpen, colour mode, brightness, contrast, layers, merge layers, masking/mask layer, change alpha, cloning, background eraser, airbrush, gradient. | | |

| 2.4.3 | Learners should be able to: | |
|--|---|--|
| Storing the image appropriately and outputting the final image in a format that is fit for purpose | store image(s) using version control | |
| | store images using appropriate file type (vector or raster) | |
| | output final version in optimised format | |
| | • test the file types electronically and digitally for fitness for | |
| | purpose | |
| | • evaluate final product against success criteria, identifying possible improvements. | |

4. Assessment

4.1 External assessment (Unit 1)

Unit 1 is assessed through an external examination available in January and May/June each year (first assessment in January 2024).

Each external examination will:

- be set and marked by WJEC
- consist of a 1 hour, 20 minute paper
- assess content from each topic in the unit each series
- include 80 marks
- include a balance of short and extended answer questions, based on stimulus material and applied contexts
- only use the command verbs listed in the Assessment Guide (Chapter 4)
- be graded Level 1 Pass, Level 1 Merit, Level 1 Distinction, Level 1 Distinction*, Level 2 Pass, Level 2 Merit, Level 2 Distinction, Level 2 Distinction*.

All content in each topic area will be assessed over the lifespan of the specification. WJEC will produce a mark scheme which will be used as the basis for marking the examination papers.

For external assessments, centres must follow the Joint Council for Qualifications (JCQ) *Instructions for Conducting Examinations*, a copy of which can be accessed from the JCQ website. (www.jcq.org.uk).

4.2 Internal assessment (Unit 2)

Unit 2 is assessed through controlled assessment and submitted for external moderation. Unit 2 is available for submission in December and May each year (first submission in May 2023). Centres must follow the instructions for running controlled assessments in the Administration Guide and within each Unit Guide. In line with these instructions, centres are required to have in place a controlled assessment policy (which can be part of a centre's NEA policy); this will be checked as part of the centre and qualification approval process.

4.3 Synoptic assessment

Unit 2 is synoptic and requires learners to draw on some of the knowledge and experience gained through Unit 1 (see page 16 for details).

4.4 Candidate and assessor packs

Candidate and Assessor Packs are available on the secure website for centres to download. Centres have flexibility in when they schedule internal assessment but must ensure that they are using the correct packs for the series in which they intend to enter the work for moderation. Candidates must not have access to the Candidate Packs until they are ready for assessment which should be after all the teaching and learning for the unit has been completed.

4.5 Managing the assessments

Centres are required to manage and conduct internal assessments in line with the arrangements outlined in the Administration Guide. There are four areas that are controlled: supervision, guidance, and time collaboration. Specific details for Unit 2 can be found in the Sample Assessment Materials and the corresponding unit guide.

5. Guided Learning Hours and Total Qualification Time

5.1 Guided Learning Hours

Guided learning hours (GLH) means activities such as classroom-based learning, tutorials and online learning, which is directly supervised by a teacher, tutor or invigilator. It also includes all forms of assessment which take place under the immediate guidance or supervision of a teacher, supervisor or invigilator.

The total number of GLH assigned to this qualification is 120 hours.

Guided learning hours are allocated per unit to support centre planning and delivery. It is acceptable for centres to deliver this qualification holistically and, therefore, guided learning hours per unit are a recommendation only.

5.2 Total Qualification Time

Total qualification time (TQT) is the total amount of time, in hours, expected to be spent by a learner to achieve a qualification. It includes both the guided learning hours (GLH) and additional time spent in preparation, study and some formative assessment activities.

The total qualification time for this qualification has been calculated as 200 hours. This includes:

- 120 hours of guided learning and/or supervised assessment
- 80 hours of self-directed study which may include additional assignments and tasks set by the teacher (homework) and independent use of online learning resources.

6. Entries

6.1 Centre approval

In order to offer our qualifications, centres must have WJEC centre approval. The approval process involves completion of the relevant application form(s) and an assessment of the ability of the centre to meet WJEC and relevant JCQ requirements.

If you are a new institution, please read the following documents before contacting us to discuss your prospective centre:

- JCQ General Regulations for Approved Centres
- JCQ Instructions for Conducting Examinations
- WJEC Conditions for Registered Centres

If your centre wishes to submit entries and is not yet registered as a centre, please contact the Centre Support department at WJEC (centres@Wjec.co.uk) for an application form. The completed form must be returned to WJEC no less than five months prior to the relevant entry deadline.

WJEC approved centres must adhere to the General Conditions for WJEC Centres and the appropriate JCQ regulations. All WJEC approved centres with a national centre number (NCN) must complete the annual declaration sent by NCN. Failure to do so will result in suspension of WJEC registration.

6.2 Entry procedure

WJEC Level 1/2 in ICT will be available for certification from January 2024.

This qualification has a 40% terminal requirement. This means that the external assessment must be taken in the examination series in which the candidate is cashing in the qualification. Candidates can be entered for the external assessment prior to this as a practice attempt however, only the mark from the attempt made in the series in which the candidate is cashing in the qualification will be used in calculating the final overall grade, even if this is lower than a previous attempt.

Unit entry

Entry for individual units must be made by submitting the relevant unit codes as indicated on each unit of the specification.

Qualification entry

Learners will be entered for the qualification when entering for aggregation (cash-in).

Aggregation does not take place automatically; it is necessary to enter the relevant code for aggregation to take place.

Entry Codes

| | | Entry Code |
|--------------|----------|------------|
| Unit 1 | External | 5539U1 |
| Unit 2 | Internal | 5539U2 |
| | | |
| Cash in code | | 5539QA |

7. Awarding, grading and reporting

Vocational Awards are awarded on an 8-point scale: Level 2 Distinction*, Level 2 Distinction, Level 2 Merit, Level 2 Pass, Level 1 Distinction*, Level 1 Distinction, Level 1 Merit, Level 1 Pass. Candidates who do not achieve the uniform marks required to achieve a Level 1 Pass will have their achievement recorded as U (unclassified) and will not receive a certificate.

Individual units are recorded on a uniform mark scale (UMS) with the following grade equivalences:

| | | Level 2 | | | | Level 1 | | | |
|---------------|-----|---------|-----|-----|-----|---------|-----|----|----|
| Unit | Max | D* | D | М | Р | D* | D | М | Р |
| Unit 1 | 120 | 108 | 96 | 84 | 72 | 60 | 48 | 36 | 24 |
| Unit 2 | 180 | 162 | 144 | 126 | 108 | 90 | 72 | 54 | 36 |
| | | | | | | | | | |
| Qualification | 300 | 270 | 240 | 210 | 180 | 150 | 120 | 90 | 60 |

8. Resit arrangements

8.1 Resitting units prior to certification

Candidates may resit the **internally** assessed unit prior to certification but cannot improve previously submitted work. The best uniform mark score from the attempts will be used in calculating the final overall grade.

Candidates may resit the **externally** assessed unit, prior to certification; however, this qualification has a 40% terminal requirement which must be satisfied by the externally assessed unit. Therefore, only the uniform mark score from the attempt made in the series in which the candidate is cashing in the qualification will be used in calculating the final overall grade, even if this is lower than the previous attempt.

8.2 Resitting units following certification

Candidates who are unhappy with the grade awarded for the qualification may choose to resit one or more units following certification.

Where the candidate resits the externally assessed unit, only the uniform mark score from the resit attempt will be used in calculating the final overall grade, even if this is lower than the previous attempt. The candidate does not need to resit the internally assessed unit as marks for the internally assessed unit may be carried forward for the lifetime of the specification.

Where the candidate resits the internally assessed unit, the higher of the uniform mark score from either the initial attempt or the resit attempt will be used in calculating the overall grade. The candidate will also need to resit the externally assessed unit to satisfy the terminal rule requirement for the qualification and only the uniform mark score from the resit attempt will be used in calculating the final overall grade, even if this is lower than the previous attempt.

8.3 Post-results services

Following the publication of results for each examination series, WJEC offers a range of post-results services relating to reviews of marking and moderation and access to examination scripts. Information on post-results services can be found on the Consortium website.

9. Malpractice

Information regarding malpractice is available in our Malpractice, A Guide for Centres document.

All cases of suspected or actual malpractice must be reported to WJEC. If candidates commit malpractice they may be penalised or disqualified from the examinations.

In all cases of malpractice, centres are advised to consult the JCQ booklet Suspected Malpractice: Policies and Procedures.

9.1 Preventing malpractice

Candidates must not:

- submit work which is not their own;
- make available their work to other candidates through any medium;
- allow other candidates to have access to their own independently sourced material;
- assist other candidates to produce work;
- use books, the internet or other sources without acknowledgement or attribution;
- submit work that has been word processed by a third party without acknowledgement;
- include inappropriate, offensive or obscene material.

Candidates are not prohibited from lending books or other resources to one another, but they must not plagiarise others' research.

Candidates must not post their work on social media. They should be made aware of the JCQ document Information for candidates – Guidelines when referring to examinations/assessments through the Internet – <u>http://www.jcq.org.uk/exams-office/information-for-candidates-</u> <u>documents/information-for-malpractice</u>

Heads of centre and senior leaders must ensure that those members of teaching staff involved in the direct supervision of candidates producing controlled assessment are aware of the potential for malpractice.

Teaching staff must be reminded that failure to report allegations of malpractice or suspected malpractice constitutes malpractice itself.

Teaching staff must:

- be vigilant in relation to candidate malpractice and be fully aware of the published regulations;
- report any alleged, suspected or actual incidents of malpractice to the senior leadership team or directly to WJEC.