

City & Guilds Diplomas in ICT Professional Competence (4520- 02/03/04)

Levels 1–4 Unit Handbook for Centres
(Units 201–280)

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City & Guilds Diplomas in ICT Professional Competence (4520-02/03/04)

Levels 1–4 Unit Handbook for Centres (Units 201–280)

Qualification title	Number	QAN
City & Guilds Level 2 Diploma in ICT Professional Competence	4520-02	501/1789/0
City & Guilds Level 3 Diploma in ICT Professional Competence	4520-03	501/1788/9
City & Guilds Level 4 Diploma in ICT Professional Competence	4520-04	501/1787/7

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Contents

1	Introduction to this unit handbook	7
Unit 4520-201	Customer care in ICT	9
Unit 4520-201	Customer care in ICT	10
Unit 4520-203	Interpersonal and written communication	12
Unit 4520-204	Develop own effectiveness and professionalism	14
Unit 4520-205	Introduction to IT systems development	16
Unit 4520-206	Remote support for products and services	18
Unit 4520-208	Software installation and upgrade	20
Unit 4520-209	ICT system operation	22
Unit 4520-210	Technical advice and guidance	24
Unit 4520-211	Technical fault diagnosis	26
Unit 4520-212	IT project management	29
Unit 4520-213	Testing ICT systems	32
Unit 4520-214	Working with ICT hardware and equipment	35
Unit 4520-215	Computer games development	38
Unit 4520-216	Data modelling	40
Unit 4520-217	System management	42
Unit 4520-219	User profile administration	44
Unit 4520-221	Creating a procedural computer program using COBOL	46
Unit 4520-226	Creating an object-oriented computer program	49
Unit 4520-227	Creating an event-driven computer program	51
Unit 4520-271	Imaging software	53
Unit 4520-272	Database software	55
Unit 4520-273	Using email	57
Unit 4520-274	Using the Internet	59
Unit 4520-275	Presentation software	61
Unit 4520-276	Spreadsheet software	63
Unit 4520-277	Website software	65
Unit 4520-278	Word processing software	67
Unit 4520-279	Desktop publishing software	69
Unit 4520-280	Design software	71
Appendix 1	Glossary	73
Appendix 2	Change detail	74

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1

Introduction to this unit handbook

City & Guilds offers the following qualifications as part of its **ICT Professional Competence** qualification:

Qualification title	Number	QAN
City & Guilds Level 2 Diploma in ICT Professional Competence	4520-02	501/1789/0
City & Guilds Level 3 Diploma in ICT Professional Competence	4520-03	501/1788/9
City & Guilds Level 4 Diploma in ICT Professional Competence	4520-04	501/1787/7

This unit handbook contains the units from Levels 1, 2, 3 and 4, which are part of the City & Guilds Level 2, 3 and 4 Diplomas in ICT Professional Competence.

The unit handbook should be read in conjunction with the *City & Guilds Diploma in ICT Professional Competence Qualification Handbook* (4520-02, 4520-03, 4520-04), containing the following:

- Introduction to the qualifications
- Centre requirements
- Structure of the qualifications
- Course design and delivery.

These handbooks can be downloaded from www.cityandguilds.com

Structure of the units

The units in these qualifications are written in a standard format and comprise the following:

- City & Guilds unit number
- title
- level
- credit value
- Unit Accreditation Number (UAN)
- unit aim
- learning outcomes
- statement of guided learning hours
- how the unit is assessed
- assessment criteria.

Guidance for centres

A glossary (Appendix 1) contains a list of terms that appear in the units.

When first developed, units 201, 203–206, 208–217, 219, 221, 271–280 were endorsed by e-skills UK.

Barred combinations

Units that have a significant overlap in content are 'barred combinations'. Learners can take units that are barred and they will appear on the learner's Certificate of Unit Credit (CUC), but barred units will not both/all count towards the credit required for a qualification.

If a centre wishes to claim two (or more) barred units for a learner, they are advised to claim the unit that is most necessary to the rules of combination for the qualification and then wait until they receive the certification before they claim the other barred unit(s).

If a centre claims two (or more) barred units at the same time, they may not be recognised and therefore the learner will not be considered to have achieved the qualification.

Unit 4520-201

Customer care in ICT

Level: 2
Credit value: 9
UAN: A/500/7158

Unit aim

The aim of this unit is to introduce the concept of providing support to customers, and the techniques to do this correctly. The unit initially focuses on building a relationship of trust with the customer, as well as understanding the implications of customer satisfaction. The unit also looks at complying with any organisational guidelines. The unit will help the learner to understand their own limitations.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know how to provide customer care by establishing customer relationships
2. Be able to provide customer care by establishing customer relationships

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **45** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-201 Customer care in ICT

Assessment Criteria

Outcome 1 Know how to provide customer care by establishing customer relationships

The learner can:

1. Describe the uses of interpersonal communication techniques, such as:
 - verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg smiling while talking on the phone, body language)
 - attentive listening (i.e. difference between hearing and listening)
 - positive and negative language
 - active listening (eg summarising, paraphrasing, body language)
 - listening barriers (eg background noise, distractions, lack of concentration)
 - types of question (eg open, closed and probing)
2. Describe the relevant parts of the organisational requirements for customer care, including:
 - customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)
 - authorisation procedures (eg how to confirm caller identity, how to validate requests)
 - escalation, resolution and complaint handling
 - quality assurance procedures
 - compliance with relevant legislation and regulations (eg data protection, financial services)
 - maintenance and communication of organisational brand or image
 - organisational aims and objectives
3. Describe what the implications of customer satisfaction are
 - customer retention
 - working relationships
4. Describe the relevant methods of measuring customer satisfaction levels, such as:
 - predefined formal feedback
 - unsolicited feedback
 - anecdotal feedback

Outcome 2 Be able to provide customer care by establishing customer relationships

The learner can:

1. Comply with organisational requirements
2. Communicate interpersonally on familiar subjects, such as:
 - following organisational guidelines and procedures
 - articulating and expressing ideas clearly and concisely
 - listening actively (eg by taking notes)
 - clarifying and confirming understanding (eg by paraphrasing or repetition).
 - responding to questions with accurate information
 - ensuring content is appropriate to the needs of the audience
 - identifying and avoiding listening barriers
 - maintaining focus on the purpose of the communication
3. Providing customer interaction, such as:
 - focuses on addressing customer needs
 - interacts in a sensitive and helpful manner with the customer.
 - responds to customer requests on time, accurately, pleasantly and professionally
 - builds a trusting relationship with the customer
 - keeps self and customer focused
 - maintains consistent communication style
4. Provide service delivery, such as:
 - recognising own limitations
 - escalating customer issues following organisational requirements
 - meets own commitments to customers
 - follows up customer problems and issues
5. Handle complaints from customers, such as:
 - using probing questions
 - displaying patience and understanding with demanding or emotional customers
6. Gather specified customer satisfaction information

Level: 2
Credit value: 9
UAN: T/500/7207

Unit aim

The aim of this unit is to teach the learner how to communicate effectively both in writing and verbally. The unit will help the learner to understand how to correctly verbalise what needs to be said, by using different tones and intonation. This unit will also help the learner to listen to what people have to say through techniques, such as active listening.

This unit will help the learner to effectively communicate in writing by looking at the way they structure their text. The unit will teach them the importance of using the correct grammar and spelling, as well as structuring their texts in certain ways.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Be able to send and receive familiar information by communicating interpersonally in familiar situations
2. Be able to communicate in writing in familiar situations

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Outcome 1 Be able to send and receive familiar information by communicating interpersonally in familiar situations

The learner can:

1. Apply knowledge of the following interpersonal communication techniques:
 - verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg smiling while talking on the phone, body language)
 - attentive listening (ie difference between hearing and listening)
 - positive and negative language
 - active listening (eg summarising, paraphrasing, body language)
 - listening barriers (eg background noise, distractions, lack of concentration)
 - types of question (eg open, closed and probing)
2. Use the following interpersonal communication techniques:
 - modulating voice when speaking to suit the listener or audience
 - articulating and expressing ideas clearly and concisely
 - listening actively (eg by taking notes)
 - clarifying and confirming understanding (eg by paraphrasing or repetition)
 - responding to questions with accurate information
 - ensuring content is appropriate to the needs of the audience
 - identifying and avoiding listening barriers
 - maintaining focus on the purpose of the communication

Outcome 2 Be able to communicate in writing in familiar situations

The learner can:

1. Apply knowledge of the following written communication techniques:
 - Grammar, spelling
2. Use the following techniques to produce and interpret written communication:
 - following organisational guidelines and procedures
 - identifying and conveying key messages in writing (eg letter, fax, email, database notes)
 - using correct grammar and spelling
 - using and understanding appropriate business or technical terminology
 - ensuring content, format and style are appropriate to the audience and channel (eg letter, memo, fax, email, web chat)
 - structuring writing into a logical framework
 - conveying ideas and information in a clear and concise manner
 - identifying relevant information in written communications
 - reviewing or proof reading own written work

Level: 2
Credit value: 6
UAN: Y/601/3317

Unit aim

The aim of this unit is to encourage the learner to look at themselves through understanding things, such as their own development needs, how other people see them and understanding their role in their teams. This unit also teaches the learner about various legislations which govern the way we work in ICT. They are also encouraged to look into professional bodies that are available to people working in this industry.

Learning outcomes

There are **five** learning outcomes to this unit. The learner will:

1. Be able to develop own personal and professional skills
2. Be able to work as a member of a team to achieve defined goals and implement agreed plans
3. Understand what is meant by professional practice
4. Know the legislative environment relating to IT activities
5. Be able to improve personal effectiveness

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-204 Develop own effectiveness and professionalism

Assessment Criteria

Outcome 1 Be able to develop own personal and professional skills

The learner can:

1. obtain and review feedback from others on performance
2. agree personal goals and participate in development activities to meet them

Outcome 2 Be able to work as a member of a team to achieve defined goals and implement agreed plans

The learner can:

1. effectively manage own time
2. recognise and respect diversity, individual differences and perspectives
3. accept and provide feedback in a constructive and considerate manner
4. understand the responsibilities of colleagues
5. identify obstacles to effective teamwork

Outcome 3 Understand what is meant by professional practice

The learner can:

1. Identify the implications, and applicability for IT professionals of:
 - Data Protection Act
 - General Data Protection Regulation (GDPR)
 - Computer Misuse Act
2. List the professional bodies for IT

Outcome 4 Know the legislative environment relating to IT activities

The learner can:

1. Identify the impact on an IT organisation of legislation covering:
 - Processing of financial transactions
 - Health and safety
 - Privacy, Confidentiality and Security
 - Copyright and Intellectual Property Rights

Outcome 5 Be able to improve personal effectiveness

The learner can:

1. List the aims and objectives of the organisation
2. State the organisation's brand or image
3. Identify the organisation's structure, roles and responsibilities
4. Identify potential improvements to working practices

Level: 2
Credit value: 6
UAN: J/601/3247

Unit aim

The aim of this unit is to introduce the learner to systems development methodologies. Firstly the learner is taught to understand the role of IT systems in our society and understand the need to develop systems. In order to do this the learner will learn the importance of the systems development life cycle.

The learner will also understand the advantages and disadvantages of different types of software options and the importance of quality assurance.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Understand IT Systems and the roles of IT personnel
2. Understand IT Systems Development Life Cycle (SDLC) models
3. Understand IT Systems Development Life Cycle (SDLC) concepts and processes

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **50** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-205 Introduction to IT systems development

Assessment Criteria

Outcome 1 Understand IT Systems and the roles of IT personnel

The learner can:

1. Explain the role of IT Systems in society
2. Describe the major components of a contemporary IT System
3. Describe the roles of personnel in the development, operation and use of IT System

Outcome 2 Understand IT Systems Development Life Cycle (SDLC) models

The learner can:

1. Describe top down, bottom up and integrated approaches to IT Systems development
2. Explain the purposes of the initiation, analysis, design and implementation phases of the IT SDLC
3. Identify the advantages and disadvantages of the traditional ('waterfall') SDLC model
4. Describe two other SDLC models, identifying the type of development for which they are suited

Outcome 3 Understand IT Systems Development Life Cycle (SDLC) concepts and processes

The learner can:

1. Describe the advantages and disadvantages of the following solution types:
 - packaged ('off the shelf')
 - bespoke
 - combination of packaged and bespoke
 - upgrade
2. Explain the importance of quality assurance and meeting customer requirements during the IT SDLC and how they can be achieved
3. Describe the applicability of the following methods of gathering information:
 - interviews
 - observations
 - questionnaires
 - examination of records and documents

Level: 2
Credit value: 9
UAN: Y/500/7216

Unit aim

The aim of this unit is to introduce some of the concepts of supporting IT systems remotely. The learner will learn which products can be supported and how they can be supported. The learner will also learn the customer care aspects of remote support, such as customer service procedures. Whilst doing this the learner will learn how to follow any relevant legislation.

This unit will teach the learner how to provide support and log the support given to users remotely. They will also learn how to extract the information required to make a correct diagnosis.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know relevant parts of customer care requirements and details of the supported products and services
2. Be able to provide support on specified products or services

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria**Outcome 1 Know relevant parts of customer care requirements and details of the supported products and services**

The learner can:

1. Describe the specified products or services to be supported:
 - benefits of the products and services
 - frequently used product or service options
 - standard features and common uses of the products or services
2. Describe relevant parts of organisational requirements for customer care, such as:
 - customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)
 - authorisation procedures (eg how to confirm caller identity, how to validate requests)
 - escalation, resolution and complaint handling
 - quality assurance procedures
 - compliance with relevant legislation and regulations (eg data protection, financial services)
 - maintenance and communication of organisational brand or image
 - organisational aims and objectives

Outcome 2 Be able to provide support on specified products or services

The learner can:

1. Comply with organisational requirements
2. Confirm customer identity, validate requests and inform customers when authorisation criteria are not met
3. Communicate information on specified products or services:
 - identifying customers' needs
 - accurately collecting and logging relevant information from the customer
 - providing product and service features to customers
 - ensuring customer understanding of the information provided
 - categorising requests and directing customers appropriately
 - managing customer expectations (eg by confirming outcomes, timescales or costs)
4. Make recommendations based on customer needs
5. Resolve and escalate requests and handle basic complaints:
 - using probing questions
 - displaying patience and understanding with demanding or emotional customers

Level: 2
Credit value: 9
UAN: D/500/7329

Unit aim

The aim of this unit teaches the learner how to install and/or upgrade various pieces of software. The unit also aims to teach the learner how to record information associated with software installations. The learner will learn to install and/or upgrade software from differing locations. As part of this unit the learner will also learn how to follow organisational guidelines and record their actions.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Understand relevant parts of the installation/upgrade process
2. Be able to install/upgrade software

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **80** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-208 Software installation and upgrade

Assessment Criteria

Outcome 1 Understand relevant parts of the installation/upgrade process

The learner can:

1. Describe the relevant parts of the software installation and upgrade process including:
 - procedures to be followed
 - procedures for information recording
 - software storage locations to be used
 - specifications of the software
2. Describe relevant software loading facilities

Outcome 2 Be able to install/upgrade software

The learner can:

1. Identify the minimum system resources required by the software (eg RAM, Hard disk space)
2. Follow relevant installation/upgrade procedures
2. Use appropriate software loading facilities
3. Record relevant information
4. Communicate the progress and outcome of the installation/upgrade to the appropriate people

Level: 2
Credit value: 9
UAN: F/500/7338

Unit aim

The aim of this unit is to teach the learner typical ICT operations. In order to do this the unit will teach the learner to identify relevant parts of the operating procedures including monitoring, escalations and obtaining work permissions. This unit will also teach the learner how to use specified parts of IT systems and how to minimise loss through their actions.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know the relevant parts of the operating system
2. Be able to operate specified parts of the system

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **45** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-209 ICT system operation

Assessment Criteria

Outcome 1 Know the relevant parts of the operating system

The learner can:

1. Describe the relevant parts of operating procedures:
 - required service levels (eg availability, quality)
 - routine maintenance
 - monitoring
 - data integrity (eg backups, anti-virus)
 - consumables use, storage & disposal
 - Health and safety
 - escalation
 - information recording and reporting
 - obtaining work permissions
 - security & confidentiality
2. Describe the functionality of relevant parts of the system

Outcome 2 Be able to operate specified parts of the system

The learner can:

1. Operate specified parts of the system
 - operating specified system parts following procedures
 - Recognising, resolving or escalating system faults
 - gathering and recording specified operational information
2. Assess and minimize risks related to your own actions, such as:
 - loss or corruption of data
 - loss of service
 - damage to equipment

Level: 2
Credit value: 9
UAN: F/601/3506

Unit aim

The aim of this unit is to teach the learner how to provide technical support. In order to do this the learner will learn how technical advice and guidance can be used and identify the types of information that can aid the user who is being supported. As part of this unit the learner will identify the purposes of IT technical support through providing support to different user types. All of this will be done whilst following organisational guidelines.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know how to provide technical advice and guidance
2. Be able to provide reactive technical advice and guidance to customers on a range of topics

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **50** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-210 Technical advice and guidance

Assessment Criteria

Outcome 1 Know how to provide technical advice and guidance

The learner can:

1. Identify how technical advice and guidance can be used
2. List the types of information which can form the basis of technical advice and guidance
3. Identify organisational procedures which can apply to the provision of technical advice and guidance
4. Identify circumstances where technical advice and guidance should be provided proactively rather than reactively in response to customer requests (eg to rectify known faults, to provide new functionality)

Outcome 2 Be able to provide reactive technical advice and guidance to customers on a range of topics

The learner can:

1. Identify the purposes for which technical advice and guidance is required
2. Check that customers are entitled to receive the requested technical advice and guidance
3. Communicate effectively with customers to obtain specified information to enable correct technical advice and guidance to be provided
4. Interpret given technical information to produce advice and guidance in response to customer requests
5. Communicate technical advice and guidance to customers in a given format and style, confirming customer understanding of the information provided
6. Follow organisational procedures for responding to customer requests including the timely escalation of those for which technical advice and guidance cannot be provided or does not resolve the request

Level: 2

Credit value: 9

UAN: T/601/3292

Unit aim

The aim of this unit is to teach the learner the process involved in technical fault diagnosis. In order to do this the learner will learn to identify the steps involved in providing a diagnosis including validating the fault and gathering information regarding the fault. The learner will also learn how to use different diagnosing tools. The learner will be taught how to identify and apply remedies to identified faults.

Learning outcomes

There are **four** learning outcomes to this unit. The learner will:

1. Know the process, methods and information that are used in the diagnostic process
2. Be able to apply processes to diagnose faults with a known range of causes and assist in the diagnosis of other faults
3. Be able to select fault remedies from given alternatives
4. Be able to maintain diagnosis and remedy records

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **45** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-211 Technical fault diagnosis

Assessment Criteria

Outcome 1 Know the process, methods and information that are used in the diagnostic process

The learner can:

1. Identify the steps of the diagnostic process including:
 - fault validation
 - information gathering
 - information analysis
 - solution identification
2. Describe the types of diagnostic information that are commonly needed and their purpose
3. Describe common diagnostic methods to include:
 - substitution
 - replication
 - performance and functional testing
 - environment change
4. List typical considerations affecting fault diagnosis, eg:
 - minimisation of service disruption during diagnostics
 - individual responsibility and authority
 - escalation procedure
 - level of service

Outcome 2 Be able to apply processes to diagnose faults with a known range of causes and assist in the diagnosis of other faults

The learner can:

1. Correctly use appropriate diagnostic tools, eg:
 - electrical/electronic test instruments
 - on-board self-test programs
 - loopback devices
 - on-line/remote monitoring
 - diagnostic software
2. Effectively use given sources of information to support diagnosis
3. Analyse information to identify the cause of faults, using two of the following approaches:
 - gap analysis
 - identification of cause and effect
 - flow charts

Outcome 3 Be able to select fault remedies from given alternatives

The learner can:

1. Select, from given alternatives, a suitable remedy to rectify identified faults taking into account the following:
 - business or service impact
 - resource and skill availability
 - ease of implementation
2. Identify possible ways to prevent reoccurrence of diagnosed faults

Outcome 4 Be able to maintain diagnosis and remedy records

The learner can:

1. Accurately document the diagnosis activities undertaken including:
 - fault description
 - supporting information
 - diagnostic tools etc used
 - cause of fault
 - remedy selected

Level: 2
Credit value: 4
UAN: T/502/1110

Unit aim

The aim of this unit is to introduce some of the key aspects involved in project management. In order to do this the learner will learn about the roles and responsibilities of the people involved in project management. The learner will also learn to identify and use some of the documentation used in project management. The learner will be taught how to identify the key criteria that must be satisfied in order to deliver a successful project.

This unit also aims to teach the learner how to collect information that is required during a project and also look at differing lifecycles for project management. Finally, this unit will enable the learner to apply some of the principles and techniques that they have learnt.

Learning outcomes

There are **four** learning outcomes to this unit. The learner will:

1. Be able to describe Projects and Project Management
2. Be able to demonstrate an understanding of the principles of project management
3. Be able to describe the typical activities within system and project life-cycles
4. Be able to apply the principles of project planning and control

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-212 IT project management

Assessment Criteria

Outcome 1 Be able to describe Projects and Project Management

The learner can:

1. Identify 3 different types of project organisation structure
2. Identify key roles and responsibilities within a project's organisation structure i.e.
 - Sponsor (Executive)
 - Users
 - Suppliers
 - Project Manager
 - Team Manager (Leader)
 - Project Support Office
3. Create key project documentation
 - Project Plan
 - The Business Case
 - The Project Management Plan (PMP)
 - Project Initiation Document (PID)
4. Identify and create the key criteria required in order to deliver a successful project
 - Objectives – Specific Measurable Agreed Realist Time-bound Evaluated Reviewed (SMARTER)
 - Constraints
 - Requirements
5. Calculate the viability of a project using Investment Appraisal techniques
 - Payback period
 - Discounted Cash Flow (DCF) / Net Present Value (NPV)
6. Calculate the Return on investment (ROI) for a given project

Outcome 2 Be able to demonstrate an understanding of the principles of project management

The learner can:

1. Collect and present progress information
2. Create a basic project estimate
3. Tailor the amount of planning effort required for different projects
4. Separate the constraints from the dependencies

Outcome 3 Be able to describe the typical activities within system and project life-cycles

The learner can:

1. Compare and contrast project and system lifecycles
2. Draw and describe an example of a system lifecycle
3. Obtain an example of a project or system lifecycle
4. Select the correct system development lifecycle for a given situation

Outcome 4 Be able to apply the principles of project planning and control

The learner can:

1. Draw a simple Work Breakdown Structure (WBS)
 - Table Format
 - Diagram Format
2. Draw a simple Product Breakdown Structure (PBS)
3. Produce an Activity on Node (AoN) Network from a list of activities and dependencies
4. Identify the critical path on a basic project network using a given formula
5. Calculate the earliest and latest start and finish dates (ES, EF, LS, LF)
6. Calculate the total float on activities in an AoN Network
7. Construct a Gantt chart from an AoN activity network
8. Represent graphically the resource requirements for a simple project
9. Use control techniques to monitor progress against targets and adjust plans accordingly

Level: 2
Credit value: 9
UAN: A/500/7354

Unit aim

The aim of this unit is to introduce the learner to the principles of testing ICT systems. In order to do this the learner will learn how to select relevant tests. Whilst performing these tests the learner will know how to record the outcomes and understand how to follow Service Level Agreements (SLAs). The learner will also learn how to use different types of test depending of the situation and how to interpret the results presented to them.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know technical information about a range of products, testing procedures and associated activities, equipment to be used and the reasons for the test
2. Be able to carry out routine testing and assist in other testing

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **80** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-213 Testing ICT systems

Assessment Criteria

Outcome 1 Know technical information about a range of products, testing procedures and associated activities, equipment to be used and the reasons for the test

The learner can:

1. Describe the testing process to be followed:
 - how to select tests and collect relevant and sufficient information for the test to be successful
 - how to minimise service disruption during testing and avoid detrimental effects or changes to performance
 - ways to configure tests
 - how to record, maintain or restore configurations, data and functionality
 - types of service level agreements
 - individual responsibility and authority
 - escalation procedures and risks associated with using a testing process
2. Describe the purposes of testing eg:
 - aiding the diagnostic process
 - comparing actual and expected performance
3. Describe relevant test preparation and conclusion activities, such as:
 - Health and safety legislation and regulations
 - need to obtain work permissions
 - site access and security
 - system or equipment integrity (eg ensuring network service continuity)
 - data integrity (eg taking data backups before commencing work)
 - resource availability
 - level of service allowed by the SLA
 - environmental legislation and regulations (eg disposal of materials)
 - work sign-off and reporting
 - site restoration .system and equipment integrity (eg restoring service)
 - data integrity (eg restoring data backups as necessary)
3. Interpret technical information on a specified range of products

Outcome 2 Be able to carry out routine testing and assist in other testing

The learner can:

1. Ensure relevant preparation and conclusion activities have been carried out (see list above)
2. Use appropriate testing tools, such as:
 - electrical/electronic test instruments
 - on-board self-test programs
 - loopback devices
 - on-line/remote monitoring software
 - software debuggers
 - runtime analysers
 - diagnostic software
3. Gather and record relevant test information and test results, including:
 - identifying the relevant information
 - using approved sources of information
 - validating information
 - system logs
4. Respond to test information and results:
 - interpreting error codes/messages
 - comparing with specifications
 - identifying inconsistent data

Level: 2
Credit value: 9
UAN: K/500/7382

Unit aim

The aim of this unit is to teach the learner how to work effectively with ICT hardware and equipment. The learner will learn which tools might be required, how to plan work and the expectations of customers. The learner will learn about any regulatory requirements that may affect work activities. The learner will have the opportunity to work with ICT hardware and equipment and implement some of the techniques they have learnt, whilst all the time communicating progress and avoiding any disruptions to service.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Know how to plan and carry out a range of ICT hardware and equipment work activities under direction
2. Be able to plan and carry out a range of ICT hardware and equipment work activities under direction
3. Be able to minimise risks related to ICT hardware and equipment work activities

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **80** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-214 Working with ICT hardware and equipment

Assessment Criteria

Outcome 1 Know how to plan and carry out a range of ICT hardware and equipment work activities under direction

The learner can:

1. Describe the working process, such as:
 - tools and techniques to be used
 - procedures to be followed
 - procedures for information recording
 - customer requirements
 - product specifications
 - planning own work
2. Explain how regulatory requirements affect work activities

Outcome 2 Be able to plan and carry out a range of ICT hardware and equipment work activities under direction

The learner can:

1. Use appropriate tools and techniques safely
2. Follow relevant working procedures, such as:
 - Health and safety
 - quality
 - use of tools
 - configuration
 - testing; logistics
 - waste disposal
 - problem escalation
 - information recording
 - obtaining work permissions
 - security and confidentiality
 - customer acceptance
 - commissioning
 - product registration
3. Obtain specified resources
4. Record relevant information
5. Communicate the progress and outcome of work to the appropriate people

Outcome 3 Be able to minimise risks related to ICT hardware and equipment work activities

The learner can:

1. Assess and minimise risks related to work activities, such as:
 - loss or corruption of data
 - loss of service
 - damage to equipment

Level: 2
Credit value: 4
UAN: A/601/3164

Unit aim

The aim of this unit is to introduce the learner to computer game development. In order to do this the learner will explore the various hardware and software components that are required in the development of computer games. They will also look at the different features of a range of existing computer games.

The learner will propose a plan for developing a sample game and then move into planning and developing elements of that game.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Know computer game components and the computer games industry
2. Know how to develop a computer game specification
3. Be able to implement a component of a computer game

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **28** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-215 Computer games development

Assessment Criteria

Outcome 1 Know computer game components and the computer games industry

The learner can:

1. Identify the hardware and software components of a video game system
2. Identify the activities required to develop modern computer games
3. Describe the features of an existing computer game

Outcome 2 Know how to develop a computer game specification

The learner can:

1. Contribute to the production of a pre-production proposal document for a computer game project
2. Identify the components required to develop a computer game
3. Contribute to the productions of an implementation plan for a computer game development

Outcome 3 Be able to implement a component of a computer game

The learner can:

1. Design a component of a computer game
2. Develop a component of a computer game

Level: 2
Credit value: 6
UAN: A/601/3200

Unit aim

The aim of this unit is to introduce some of the concepts behind data modelling. The learner will learn about the basic concepts of data modelling including entities, attributes and relationships. The learner will also learn the objectives of normalisation. The learner will use this knowledge whilst working with a simple database structure.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know the basic concepts of logical data modelling
2. Be able to use simple data modelling techniques to create logical data models

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **45** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-216 Data modelling

Assessment Criteria

Outcome 1 Know the basic concepts of logical data modelling

The learner can:

1. Identify entities, attributes and relationships
2. State the objectives of data normalisation
3. State the purpose of keys

Outcome 2 Be able to use simple data modelling techniques to create logical data models

The learner can:

1. Identify and name entities, assigning the correct type and size
2. Identify entity relationships
3. Use a standard notation to create a logical data model

Level: 2
Credit value: 6
UAN: Y/500/7331

Unit aim

The aim of this unit is to introduce some of the concepts behind managing computer systems. The learner will learn how the configuration of a computer system can affect the management of computer systems. The learner will also learn the importance of asset management. The learner will have an opportunity to use what they have learnt and modify a computer system according to given guidelines.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know how to assist in administering a system
2. Be able to change system configurations

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **55** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-217 System management

Assessment Criteria

Outcome 1 Know how to assist in administering a system

The learner can:

1. Describe how to use specified system configuration facilities
2. Explain what ICT asset and configuration information is to be recorded, such as:
 - Physical attributes (eg manufacturer, type, revision, serial number, location, value)
 - Configuration (eg physical and logical addresses, options set, connections)

Outcome 2 Be able to change system configurations

The learner can:

1. Make specified changes to system configuration
2. Gather and record ICT asset and configuration information for specified items

Level: 2
Credit value: 6
UAN: H/500/7378

Unit aim

The aim of this unit is to teach the learner how to create and modify user profiles. In order to this the learner will be taught how to create a user identifier and how to work with passwords (and the frequency with which they need to be modified). The learner will also learn the differences between different user types. The learner will have an opportunity to modify existing user account settings.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Know how to assist in the administration of user profiles
2. Be able to assist in the administration of user profiles

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **55** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-219 User profile administration

Assessment Criteria

Outcome 1 Know how to assist in the administration of user profiles

The learner can:

1. Describe how to make changes to user profiles, such as:
 - user identifier (eg. username)
 - password and related information (eg change frequency)
 - allowed system access (eg times, locations)
 - allowed access to facilities (eg data, software)

Outcome 2 Be able to assist in the administration of user profiles

The learner can:

1. Make specified changes to user profiles

Unit 4520-221

Creating a procedural computer program using COBOL

Level: 2
Credit value: 7
UAN: L/601/3167

Unit aim

The aim of this unit is to introduce some of the concepts behind procedural programming. As part of this unit the learner will learn some of the key elements of a procedural language, such as how to declare file structures and how to use some of the predefined functions. The learner will have an opportunity to use what they have learnt by modifying an existing program to improve its quality. Finally, the learner will test the revised code and record their expected and actual results.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to implement software using procedural programming
2. Be able to refine an object-oriented program to improve quality
3. Be able to test the operation of a procedural programme

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio or by means of a **set assignment** covering practical activities and underpinning knowledge.

Assessment Criteria**Outcome 1 Be able to implement software using procedural programming**

The learner can:

1. Select, declare and initialise variable and data structure types and sizes to meet given requirements
2. Implement control structures
3. Declare file structures
4. Use standard input/output commands
5. Use operators and predefined functions
6. Correctly use parameter passing mechanisms

Additional guidance:

The learner will be able to

- describe the structure of a program: divisions, sections, paragraphs, sentences and statements
- describe the PICTURE clause required for a given data item: alphanumeric, alphabetic, numeric, numeric edited
- define the relationships between group and elementary data items
- describe the use of literals and figurative constants
- describe how a one-dimensional array can be declared, initialised and accessed
- explain the use of the REDEFINES clause change the definition of a storage area
- describe the operation of the PERFORM statement to execute one or several paragraphs: once, a set number of times, dependent on a condition
- state the purpose of the EXIT statement
- describe control structures used for selection i.e. IF, IF ... ELSE
- define the terms: character, field, record and file
- explain the meaning of each clause within the SELECT statement in the ENVIRONMENT DIVISION for a sequential file
- state the importance of testing for end of file
- describe how a sequential file can be opened for INPUT, OUTPUT, I-O or EXTEND
- explain the use of FILLER as a data name with the VALUE clause and the figurative constant SPACES to space items across a print line
- describe the use of the ACCEPT and DISPLAY statements for standard input and output
- describe the relational operators < (less than), > (greater than), <= (less than or equal to), >= (greater than or equal to), = (equal to), NOT= (not equal to)
- describe the logical operators AND, OR, NOT
- describe the arithmetic operators ie ADD, SUBTRACT, MULTIPLY and DIVIDE
- describe the use, in arithmetic statements, of the following clauses: GIVING, REMAINDER
- describe the effect of using the MOVE statement to move the contents of one data item to another data item of different size (numeric or alphanumeric)

Outcome 2 Be able to refine an object-oriented program to improve quality

The learner can:

1. Follow an agreed standard for naming, comments and code layout
2. Implement data validation for inputs
3. Implement opportunities error handling and reporting
4. Create on-screen help to assist the users of a computer program

Additional guidance:

The learner will be able to

- describe the conventional use of indentation in code layout
- state that meaningful names should be used for variables
- state that meaningful comments are inserted in code to aid understanding of the code
- state that data validation is performed on data entered into a program to prevent incorrect data causing incorrect results or a run-time error
- describe the types of data validation that can be performed, such as presence check, range check, date check, type check (alphabetic or numeric), character count, check digit (modulus number), format check (eg AG145), use of a lookup table for defined values
- describe the use of ALPHABETIC, NUMERIC, POSITIVE AND NEGATIVE to test the contents of a data item
- state the importance of trapping errors in a program so that the program does not crash at run-time
- state the types of error that can cause a run-time error eg division by zero, reading past end of file, reading from or writing to a file that has not been opened
- describe how screen prompts are used to provide information to a user about the actions that can be taken when an error occurs
- state that the purpose of end user documentation is to help the user to operate the software

Outcome 3 Be able to test the operation of a procedural programme

The learner can:

1. Use available debugging tools
2. Determine expected test results from given test data
3. Compare actual results against expected results to identify discrepancies

Additional guidance:

The learner will be able to:

- state that errors can be located when debugging a program by displaying the values held in variables
- state that test data should contain valid and invalid data
- state that testing is done to determine if a program executes correctly according to its specification and to aid in the location and correction of errors

Unit 4520-226

Creating an object-oriented computer program

Level: 2
Credit value: 7
UAN: A/601/3181

Unit aim

This unit teaches concepts of object-orientated programming. Learners will gain an understanding of some of the features of an object-driven environment, such as using standard input and output commands and using the integrated development environment effectively.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to implement software using object-oriented programming
2. Be able to refine an object-oriented program to improve quality
3. Be able to test the operation of an object-oriented driven program

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria

Outcome 1 Be able to implement software using object-oriented programming

The learner can:

1. select, declare and initialize variable and data structure types and sizes to meet given requirements
2. define relationships between objects
3. implement object behaviours using control structures
4. declare file structures
5. use standard input/output commands
6. use operators and predefined functions
7. make effective use of an integrated development environment (ide)

Outcome 2 Be able to refine an object-oriented program to improve quality

The learner can:

1. follow an agreed standard for naming, comments and code layout
2. implement data validation for inputs
3. implement opportunities error handling and reporting
4. create on-screen help to assist the users of a computer program

Outcome 3 Be able to test the operation of an object-oriented driven program

The learner can:

1. use of the debugging facilities available in the ide
2. determine expected test results from given test data
3. compare actual results against expected results to identify discrepancies

Level: 2
Credit value: 7
UAN: T/601/3177

Unit aim

This unit teaches concepts of event-driven programming. Learners will gain an understanding of some of the features of an event-driven environment, such as using standard input and output commands and using the integrated development environment effectively.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to implement software using event-driven programming
2. Be able to refine an event-driven program to improve quality
3. Be able to test the operation of an event-driven program

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **60** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria

Outcome 1 Be able to implement software using event-driven programming

The learner can:

1. declare and initialise variable and data structure types and sizes to implement given requirements
2. assign properties to screen components
3. associate events, including parameter passing, to screen components
4. implement event handling using control structures
5. declare file structures
6. use standard input/output commands to implement design requirements
7. use of operators and predefined functions
8. use an integrated development environment (IDE)

Outcome 2 Be able to refine an event-driven program to improve quality

The learner can:

1. follow an agreed standard for naming, comments and code layout
2. implement data validation for inputs
3. implement error handling and reporting
4. create documentation for the support and maintenance of a computer program

Outcome 3 Be able to test the operation of an event-driven program

The learner can:

1. use the debugging facilities available in the ide
2. determine expected test results from given test data
3. compare actual test results against expected results to identify discrepancies

Level: 2

Credit value: 4

UAN: L/502/4613

Unit aim

The aim of this unit is to teach the learner how to use imaging software correctly. In order to do this the learner will describe what images are needed, describe any copyright that effects those images that are going to be used, describe the context with which those images will be used and learn to store them correctly. The learner will also learn to use imaging software and tools by responding to quality problems which may arise.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Be able to obtain, insert and combine information for images
2. Be able to use imaging software tools to create, manipulate and edit images

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-271 Imaging software

Assessment Criteria

Outcome 1 Be able to obtain, insert and combine information for images

The learner can:

1. Describe what images are needed
2. Obtain, input and prepare images to meet needs
3. Describe what copyright and other constraints apply to the use of images
4. Use appropriate techniques to organise and combine information of different types or from different sources
5. Describe the context in which the images will be used
6. Describe what file format to use for saving images to suit different presentation methods
7. Store and retrieve files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to use imaging software tools to create, manipulate and edit images

The learner can:

1. Identify what technical factors affecting images need to be taken into account and how to do so
2. Select and use suitable techniques to create images
3. Use guide lines and dimensioning tools appropriately to enhance precision
4. Select and use appropriate tools and techniques to manipulate and edit images
5. Check images meet needs, using IT tools and making corrections as necessary
6. Identify and respond to quality problems with images to make sure that they meet needs

Level: 2
Credit value: 4
UAN: M/502/4555

Unit aim

The aim of this unit is to teach the learner how to use database software effectively. In order to do this the learner will learn to create and modify non-relational database tables, enter, edit and organise structured information. The learner will also produce queries and reports that manipulate the data within a database.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to create and modify non-relational database tables
2. Be able to enter, edit and organise structured information in a database
3. Be able to use database software tools to run queries and produce reports

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-272 Database software

Assessment Criteria

Outcome 1 Be able to create and modify non-relational database tables

The learner can:

1. Identify the components of a database design
2. Describe the field characteristics for the data required
3. Create and modify database tables using a range of field types
4. Describe ways to maintain data integrity
5. Respond appropriately to problems with database tables
6. Use database tools and techniques to ensure data integrity is maintained

Outcome 2 Be able to enter, edit and organise structured information in a database

The learner can:

1. Create forms to enter, edit and organise data in a database
2. Select and use appropriate tools and techniques to format data entry forms
3. Check data entry meets needs, using IT tools and making corrections as necessary
4. Respond appropriately to data entry errors

Outcome 3 Be able to use database software tools to run queries and produce reports

The learner can:

1. Create and run database queries using multiple criteria to display or amend selected data
2. Plan and produce database reports from a single table non-relational database
3. Select and use appropriate tools and techniques to format database reports
4. Check reports meet needs, using IT tools and making corrections as necessary

Level: 2
Credit value: 3
UAN: M/502/4300

Unit aim

The aim of this unit is to teach the learner how to use email software effectively and correctly. In order to do this the learner will learn how to use the tools in an email client to compose and send emails. They will learn how to use the address book feature to aid sending emails and will also learn how to handle and manage incoming emails, for example how to archive emails.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Be able to use email software tools and techniques to compose and send messages
2. Be able to manage incoming email effectively

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **20** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-273 Using email

Assessment Criteria

Outcome 1 Be able to use email software tools and techniques to compose and send messages

The learner can:

1. Select and use software tools to compose and format email messages, including attachments
2. Determine the message size and how it can be reduced
3. Send email messages to individuals and groups
4. Describe how to stay safe and respect others when using email
5. Use an address book to organise contact information

Outcome 2 Be able to use email software tools and techniques to compose and send messages

The learner can:

1. Follow guidelines and procedures for using email
2. Read and respond to email messages appropriately
3. Use email software tools and techniques to automate responses
4. Describe how to archive email messages, including attachments
5. Organise, store and archive email messages effectively
6. Respond appropriately to email problems

Level: 2
Credit value: 4
UAN: A/502/4297

Unit aim

The aim of this unit is to teach the learner how to use the Internet correctly and safely. In order to do this the learner will learn how to connect to the Internet, how to use a web browser effectively and how to improve the performance of a web browser. They will also learn how to search for information on the Internet and learn to use a web browser to communicate information. Finally, the learner will learn how to protect themselves from online threats and understand any laws governing the use of the Internet.

Learning outcomes

There are **five** learning outcomes to this unit. The learner will:

1. Be able to connect to the Internet
2. Be able to use browser software to navigate webpages effectively
3. Be able to use browser tools to search for information from the Internet
4. Be able to use browser software to communicate information online
5. Understand the need for safety and security practices when working online

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-274 Using the Internet

Assessment Criteria

Outcome 1 Be able to connect to the Internet

The learner can:

1. Identify different types of connection methods that can be used to access the Internet
2. Identify the benefits and drawbacks of the connection method used
3. Get online with an Internet connection
4. Use help facilities to solve Internet connection problems

Outcome 2 Be able to use browser software to navigate webpages effectively

The learner can:

1. Select and use browser tools to navigate webpages
2. Identify when to change settings to aid navigation
3. Adjust browser settings to optimise performance and meet needs
4. Identify ways to improve the performance of a browser

Outcome 3 Be able to use browser tools to search for information from the Internet

The learner can:

1. Select and use appropriate search techniques to locate information efficiently
2. Describe how well information meets requirements
3. Manage and use bookmarks to make it easier to find information another time
4. Download, organise and store different types of information from the Internet

Outcome 4 Be able to use browser software to communicate information online

The learner can:

1. Identify opportunities to create, post or publish material to websites
2. Select and use appropriate tools and techniques to communicate information online
3. Use browser tools to share information sources with others
4. Submit information online

Outcome 5 Understand the need for safety and security practices when working online

The learner can:

1. Describe the threats to system performance when working online
2. Work responsibly and take appropriate safety and security precautions when working online
3. Describe the threats to information security when working online
4. Manage personal access to online sources securely
5. Describe the threats to user safety when working online
6. Describe how to minimise Internet security risks
7. Apply laws, guidelines and procedures for safe and secure Internet use
8. Explain the importance of the relevant laws affecting Internet users

Level: 2
Credit value: 4
UAN: M/502/4622

Unit aim

The aim of this unit is to teach the learner how to produce presentations properly using presentation software. In order to do this learner will learn how to combine text and other information within presentation slide and they will learn how to enhance their presentations. The learner will also learn how to use some of tools in presentation that aid the structure and edit slide sequences. Finally, the learner will use all that they have learnt to prepare a slideshow for presentation.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to input and combine text and other information within presentation slides
2. Be able to use presentation software tools to structure, edit and format slide sequences
3. Be able to prepare slideshow for presentation

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-275 Presentation software

Assessment Criteria

Outcome 1 Be able to input and combine text and other information within presentation slides

The learner can:

1. Identify what types of information are required for the presentation
2. Enter text and other information using layouts appropriate to type of information
3. Insert charts and tables into presentation slides
4. Insert images, video or sound to enhance the presentation
5. Identify any constraints which may affect the presentation
6. Organise and combine information of different forms or from different sources for presentations
7. Store and retrieve presentation files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to use presentation software tools to structure, edit and format slide sequences

The learner can:

1. Identify what slide structure and themes to use
2. Select, change and use appropriate templates for slides
3. Select and use appropriate techniques to edit slides and presentations to meet needs
4. Select and use appropriate techniques to format slides and presentations
5. Identify what presentation effects to use to enhance the presentation
6. Select and use animation and transition effects appropriately to enhance slide sequences

Outcome 3 Be able to prepare slideshow for presentation

The learner can:

1. Describe how to present slides to meet needs and communicate effectively
2. Prepare slideshow for presentation
3. Check presentation meets needs, using IT tools and making corrections as necessary
4. Identify and respond to any quality problems with presentations to ensure that presentations meet needs

Level: 2
Credit value: 4
UAN: F/502/4625

Unit aim

The aim of this unit is to teach the learner how to use Spreadsheet software effectively. In order to do this the learner will learn how to identify which numerical information is needed and how it should be structured and they will learn how to save the data correctly. The learner will also learn how to correctly use the formula and analysis tools to meet the given requirements. Finally, the learner will learn how to present their findings to meet the audience's requirements.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to use a spreadsheet to enter, edit and organise numerical and other data
2. Be able to select and use appropriate formulas and data analysis tools to meet requirements
3. Be able to select and use tools and techniques to present and format spreadsheet information

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria**Outcome 1 Be able to use a spreadsheet to enter, edit and organise numerical and other data**

The learner can:

1. Identify what numerical and other information is needed in the spreadsheet and how it should be structured
2. Enter and edit numerical and other data accurately
3. Combine and link data across worksheets
4. Store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to select and use appropriate formulas and data analysis tools to meet requirements

The learner can:

1. Identify which tools and techniques to use to analyse and manipulate data to meet requirements
2. Select and use a range of appropriate functions and formulas to meet calculation requirements
3. Use a range of tools and techniques to analyse and manipulate data to meet requirements

Outcome 3 Be able to select and use tools and techniques to present and format spreadsheet information

The learner can:

1. Plan how to present and format spreadsheet information effectively to meet needs
2. Select and use appropriate tools and techniques to format spreadsheet cells, rows, columns and worksheets
3. Select and format an appropriate chart or graph type to display selected information
4. Select and use appropriate page layout to present and print spreadsheet information
5. Check information meets needs, using spreadsheet tools and making corrections as necessary
6. Describe how to find errors in spreadsheet formulas
7. Respond appropriately to any problems with spreadsheets

Level: 2

Credit value: 4

UAN: R/502/4631

Unit aim

The aim of this unit is to teach the learner how to produce effective websites using website software. In order to do this the learner will describe the content and layout of the website that will be produced, they will also describe any copyright issues related to the content of the website. The learner will learn to use software to create their designs by using its features correctly and they will learn how to correctly publish their website/s.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to create structures and styles for websites
2. Be able to use website software tools to prepare content for websites
3. Be able to publish websites

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria**Outcome 1 Be able to create structures and styles for websites**

The learner can:

1. Describe what website content and layout will be needed for each page
2. Plan and create web page templates to layout
3. Select and use website features and structures to help the user navigate round web pages within the site
4. Create, select and use styles to keep the appearance of web pages consistent and make them easy to understand
5. Describe how copyright and other constraints may affect the website
6. Describe what access issues may need to be taken into account
7. Describe what file types to use for saving content
8. Store and retrieve files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to use website software tools to prepare content for websites

The learner can:

1. Prepare content for web pages so that it is ready for editing and formatting
2. Organise and combine information needed for web pages including across different software
3. Select and use appropriate editing and formatting techniques to aid both clarity and navigation
4. Select and use appropriate development techniques to link information across pages
5. Change the file formats appropriately for content
6. Check web pages meet needs, using IT tools and making corrections as necessary

Outcome 3 Be able to publish websites

The learner can:

1. Select and use appropriate testing methods to check that all elements of websites are working as planned
2. Identify any quality problems with websites and how to respond to them
3. Select and use an appropriate programme to upload and publish the website
4. Respond appropriately to problems with multiple page websites

Level: 2

Credit value: 4

UAN: R/502/4628

Unit aim

The aim of this unit is to teach the learner how to use word processing software correctly and effectively. In order to do this the learner will learn how to enter and combine text accurately within word processing documents. They will learn to use a range of tools and features within the application and will also learn how to create and modify the structure of a document using different styles. Finally, the learner will learn to produce documents that meet the requirements of the intended audiences.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to enter and combine text and other information accurately within word processing documents
2. Be able to create and modify layout and structures for word processing documents
3. Be able to use word processing software tools to format and present documents effectively to meet requirements

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria**Outcome 1 Be able to enter and combine text and other information accurately within word processing documents**

The learner can:

1. Identify what types of information are needed in documents
2. Use appropriate techniques to enter text and other information accurately and efficiently
3. Select and use appropriate templates for different purposes
4. Identify when and how to combine and merge information from other software or other documents
5. Select and use a range of editing tools to amend document content
6. Combine or merge information within a document from a range of sources
7. Store and retrieve document and template files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to create and modify layout and structures for word processing documents

The learner can:

1. Identify the document requirements for structure and style
2. Identify what templates and styles are available and when to use them
3. Create and modify columns, tables and forms to organise information
4. Select and apply styles to text

Outcome 3 Be able to use word processing software tools to format and present documents effectively to meet requirements

The learner can:

1. Identify how the document should be formatted to aid meaning
2. Select and use appropriate techniques to format characters and paragraphs
3. Select and use appropriate page and section layouts to present and print documents
4. Describe any quality problems with documents
5. Check documents meet needs, using IT tools and making corrections as necessary
6. Respond appropriately to quality problems with documents so that outcomes meet needs

Level: 2
Credit value: 4
UAN: D/502/4566

Unit aim

The aim of this unit is to teach the learner to produce effective publications using desktop publishing software. In order to do this the learner will describe the information they will use to produce a document and they will also learn to combine their text with other information to produce professional presentations. Finally, the learner will use what they have learnt to produce and edit a publication.

Learning outcomes

There are **three** learning outcomes to this unit. The learner will:

1. Be able to select and use appropriate designs and page layouts for publications
2. Be able to input and combine text and other information within publications
3. Be able to use desktop publishing software techniques to edit and format publications

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Assessment Criteria**Outcome 1 Be able to select and use appropriate designs and page layouts for publications**

The learner can:

1. Describe what types of information are needed
2. Describe how to change page design and layout to increase effectiveness of a publication
3. Select, change and use an appropriate page design and layout for publications in line with local guidelines, where relevant
4. Select and use appropriate media for the publication

Outcome 2 Be able to input and combine text and other information within publications

The learner can:

1. Find and input information into a publication so that it is ready for editing and formatting
2. Organise and combine information for publications in line with any copyright constraints, including importing information produced using other software
3. Describe how copyright constraints affect use of own and others' information
4. Describe which file format to use for saving designs and images
5. Store and retrieve publication files effectively, in line with local guidelines and conventions where available

Outcome 3 Be able to use desktop publishing software techniques to edit and format publications

The learner can:

1. Identify what editing and formatting to use for the publication
2. Select and use appropriate techniques to edit publications and format text
3. Manipulate images and graphic elements accurately
4. Control text flow within single and multiple columns and pages
5. Check publications meet needs, using IT tools and making corrections as necessary
6. Identify and respond to quality problems with publications to make sure they meet needs

Level: 2

Credit value: 4

UAN: T/502/4573

Unit aim

The aim of this unit is to teach the learner to use design software to produce professional designs. To do this the learner will describe what designs are needed and describe what copyrights and constraints apply to their designs. The learner will also use design software to create, manipulate and edit designs as well as being able to identify and respond to quality problems with designs.

Learning outcomes

There are **two** learning outcomes to this unit. The learner will:

1. Be able to obtain, insert and combine information for designs
2. Be able to use design software tools to create, manipulate and edit designs

Guided learning hours

Although patterns of delivery are likely to vary considerably, it is recommended that **30** hours should be allocated for this unit.

How is this unit assessed?

Assessment is by a learner portfolio.

Unit 4520-280 Design software

Assessment Criteria

Outcome 1 Be able to obtain, insert and combine information for designs

The learner can:

1. Describe what designs are needed
2. Obtain, input and prepare designs to meet needs
3. Describe what copyright and other constraints apply to the use of designs
4. Use appropriate techniques to organise and combine information of different types or from different sources
5. Describe the context in which the designs will be used
6. Describe what file format to use for saving designs to suit different presentation methods
7. Store and retrieve files effectively, in line with local guidelines and conventions where available

Outcome 2 Be able to use design software tools to create, manipulate and edit designs

The learner can:

1. Identify what technical factors affecting designs need to be taken into account and how to do so
2. Select and use suitable techniques to create designs
3. Use guidelines and dimensioning tools appropriately to enhance precision
4. Select and use appropriate tools and techniques to manipulate and edit for designs
5. Check designs meet needs, using IT tools and making corrections as necessary
6. Identify and respond to quality problems with designs to make sure that they meet needs

Appendix 1 Glossary

Agree	to reach a joint decision (with one or more person(s))
Analyse	to study or examine a topic in detail, in order to discover more about it
Annotation	words/notes written on material (eg photographs or text) usually to personalise or clarify the material
Assessor observation	written evidence produced by the assessor to record what they have observed the learner doing
Attitude	the way a person views something (NB learners do not have to distinguish between skills, qualities and attitudes)
Learner portfolio	see 'portfolio'
Learner statement	information provided by the learner which can be handwritten, typed or presented as a video or audio recording
Choose	select from a number of alternatives
Decide	reach a decision eg by considering options (these options may be suggested by the learner or another person)
Define	say (orally or in writing) what the meaning of something, especially a word, is (eg defining a particular term)
Demonstrate	show how something should be done. This is evidence of performance.
Describe	give details, to say or write what someone or something is like
Evaluate	to judge or calculate the quality, importance, amount or value of something
Explain	to make something clear or easy to understand by describing or giving information about it
Identify	to recognise something (or someone) and say (or prove) what (or who) they are
List	to make a list of at least two items. This could be a written list produced by the learner (eg hand written, using ICT, by highlighting or cutting and pasting from given source materials). Oral evidence could be recorded as an assessor observation, audio recording or a record of questioning.
Outline	give a general explanation or description without detail
Portfolio	a collection of evidence which meets the assessment criteria. This can be paper based and/or stored electronically (i.e. e-portfolio).
Qualities	distinguishing characteristics or attributes; a feature of personality (NB learners do not have to distinguish between skills, qualities and attitudes)
Range	at least three
Research	find information eg from a variety of oral and/or written sources
Skill	special ability or expertise, often acquired through training (NB learners do not have to distinguish between skills, qualities and attitudes)
State	can be written or oral evidence. Evidence for oral contribution could be an assessor record of questioning.
UAN	Unit accreditation number
Use	to put something, such as a tool or skill to a particular purpose
Witness statement	written evidence produced by someone other than the assessor to record what they have observed the learner doing

Appendix 2 Change detail

Version and date	Change detail	Section
1.1 Oct 2012	Amendment to the credit value for unit 208	Structure of the units
2.0 Jan 2013	Missing Units 190 & 191 Added	Structure of the units
2.1 March 2013	Amendment to GLH for unit 214 and corrected unit formatting.	Structure of the units
3.0 October 2013	Missing Unit 360 added.	Structure of the units
3.1 January 2014	Correct GLH and credit value of unit 220	Units
3.2 March 2014	Corrected assessment criteria 2.1 in unit 308 to match Ofqual Register	Units
3.3 March 2014	Corrected UAN number for unit 304	Units
4.0 June 2014	Units 501 – 505 units added	Structure of the units
6.0 December 2015	Units 438-451 and 580 added.	Structure of the units
	Unit 288 – assessment method corrected to Portfolio Unit 384 title corrected Unit 416 title corrected Unit 580 credit value corrected to 14	Units
7.0 February 2017	Unit 4520-416 title corrected	Unit title
8.0 February 2022	Units deleted and added as part of a structural amendment to the qualification. References to e-skills UK removed. Minor amendments to text for clarity.	Units
8.1 August 2022	Units 226 and 227 added	Units

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