

City & Guilds Level 3 Certificate in Designing and Planning Communications Networks

Qualification handbook for centres
(500/9795/7)



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1 Qualification at a glance

Subject area	Level 3 Certificate in Designing and Planning Communications Networks
City & Guilds number	3667-03
Age group approved	16-18, 19+
Assessment	Assignments Short Answer Written Test
Fast track	Not available. Automatic approval applies in some cases.
Support materials	Centre handbook
Registration and Certification	See online/Walled Garden for last Registration and Certification dates.

Title and level	GLH	TQT	City & Guilds number	Accreditation number
City & Guilds Level 3 Certificate in Designing and Planning Communications Networks	155	200	3667-03	500/9795/7

Version and date	Change detail	Section
1.0 to 2.0	Corrected certification requirements	Centre requirements (section 2.4)
	Updated test specification coverage	Assessment (section 4.2)
2.1 July 2022	TQT/GLH clarified and highlighted	Qualification at a Glance and Introduction

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1 Introduction to the qualification

This document contains the information that centres need to offer the following qualification:

Qualification title and level	Level 3 Certificate in Designing and Planning Communications Networks
City & Guilds qualification number	3667-03
Qualification accreditation number	500/9795/7

This certificate is aimed at new entrants, eg cable installers or for adults looking to enhance their promotion prospects eg network engineers. It is also suitable for learners who want career progression within the industry or related sector or to develop the skills learnt from other qualifications and need evidence towards the underpinning knowledge of the competence qualification.

The Level 3 Certificate in Designing and Planning Communications Networks (3667-03) combines the study of current telecommunications and computer networks, planning and project management. The distinction between these career pathways has blurred and issues such as bandwidth, data security, quality of service, along with the need of a high level of understanding of TCP/IP and other protocol suites are common to both.

Consult the Walled Garden/Online Catalogue for last Registration and Certification dates.

The qualification provides progression for learners who have completed the City & Guilds Level 2 Award in Communications Cabling and the Level 2 Diploma in ICT Systems and Principles.

1.1 Qualification structure

To achieve the Level 3 Certificate in Designing and Planning Communications Networks, learners must achieve a minimum of 10 credits from the mandatory units and a minimum of 10 credits from the optional units available.

The diagram below illustrates the unit titles, the credit value of each unit and the title of the qualification which will be awarded to candidates successfully completing the required combination of units and/or credits.

Unit accreditation number	City & Guilds unit number	Unit title	Mandatory/ optional for full qualification	Credit value
H/601/0078	301	Concepts of designing and planning a network cabling infrastructure	Mandatory	10
T/501/4013	302	Design and plan for an internal network cabling infrastructure	Optional	10
M/501/4012	303	Design and plan for an external overhead network cabling infrastructure	Optional	11
F/501/4015	304	Design and plan for an external underground network cabling infrastructure	Optional	11

1.2 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 guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
City & Guilds Level 3 Certificate in Designing and Planning Communications Networks	155	200

1.3 Opportunities for progression

On completion of this qualification candidates may progress into employment, a Foundation Degree or to the HLQ Diploma for IT Practitioners (4457) from City & Guilds qualifications.

1.4 Qualification support materials

City & Guilds also provides the following publications and resources specifically for this qualification:

Description	How to access
Level 3 Assignment – Assessors' instructions	www.cityandguilds.com
Level 3 Assignment – Candidates' instructions	www.cityandguilds.com

2 Centre requirements

This section outlines the approval processes for Centres to offer this qualification and any resources that Centres will need in place to offer the qualifications including qualification-specific requirements for Centre staff.

Centres already offering City & Guilds qualifications in this subject area

Centres approved to offer the qualification Level 3 Diploma in Designing and Planning Communications Networks and have been active within the 09/10 Academic year will be given automatic approval providing there have been no changes to the way the qualifications are delivered since they were approved, and there are no sanctions outstanding on their account.

Fast track approval is available until 30 June 2011. After this time, the qualification is subject to the **standard** Qualification Approval Process. It is the centre's responsibility to check that fast track approval is still current at the time of application.

Existing centres wishing to offer this qualification must use the **standard** Qualification Approval Process.

2.1 Resource requirements

Human resources

Staff delivering this qualification must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be technically competent in the areas for which they are delivering training and/or have experience of providing training. This knowledge must be at least to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- be occupationally knowledgeable in the areas for which they are delivering training. This knowledge must be at least to the same level as the training being delivered
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but must never internally verify their own assessments.

Assessors and internal verifiers

While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not currently a requirement for the qualification.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and verification, and that it takes account of any national or legislative developments.

2.2 Candidate entry requirements

Candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold.

There are no formal entry requirements for candidates undertaking this qualification. However, centres must ensure that candidates have the potential and opportunity to successfully achieve the qualification.

Age restrictions

There are no age limits attached to candidates undertaking the qualification[s] unless this is a legal requirement of the process or the environment.

3 Course design and delivery

3.1 Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify:

- any specific training needs the candidate has, and the support and guidance they may require when working towards their qualification. This is sometimes referred to as diagnostic testing.
- any units the candidate has already completed, or credit they have accumulated which is relevant to the qualification they are about to begin.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

3.2 Recommended delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Centres may design course programmes of study in any way which:

- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualification.

When designing and delivering the course programme, centres might wish to incorporate other teaching and learning that is not assessed as part of the qualification. This might include the following:

- literacy, language and/or numeracy
- personal learning and thinking
- personal and social development
- employability

Where applicable, this could involve enabling the candidate to access relevant qualifications covering these skills.

4 Assessment

4.1 Summary of assessment methods

For this qualification, candidates will be required to complete the following assessments:

- **one** short answer written test for the mandatory unit
- **one** assignment for **each chosen** optional unit

City & Guilds provides the following assessments:

- Short answer written test and specification, available to order on demand.
- Assignment Guide for centre, available to download from the City & Guilds website at **www.cityandguilds.com**
- Assignment Guide for candidates, available to download from the City & Guilds website at **www.cityandguilds.com**

Time constraints

All assignments must be completed and assessed within the candidate's period of registration. Centres should advise candidates of any internal timescales for the completion and marking of individual assignments.

4.2 Assignments

The assignment guides for assessors and candidates are available to download from the City & Guilds website at **www.cityandguilds.com**. Assignments are marked according to the criteria laid out in the assessors' guide and are graded Pass/Merit/Distinction.

Opportunities to repeat tasks within an assignment

If a candidate fails a task, they may repeat it; however, Assessors should allow a minimum of seven days before a candidate repeats a task.

N.B. If the failed task is built upon the results of a previous task, this may also need to be repeated.

If candidates need to resit the whole assignment, they may do the same one after sufficient remedial learning but will only achieve a pass. Candidates may however resit a different assignment and achieve a Pass/Merit or Distinction.

4.3 Test specifications

The test specification for unit 301 is below:

Test: 301 Concepts of designing and planning a network cabling infrastructure

Duration: 2 hours

Assessment type: written (short answer)

Section/Heading	Outcome	No of questions	%
Concepts of designing and Planning a network cabling infrastructure	1. Understand terms and definitions and the different types of communication infrastructures	2	12
	2. Explain the principles of planning and its importance to its drivers	5	28
	3. Explain the importance of 3 rd party issues and the different types of survey and discuss the importance of assured pathways/routes	2	16
	4. Discuss the relevance of the Operator license, other legislative requirements and Codes of Practice	1	8
	5. Interpret a customer need in terms of an engineering scope of works and gather the appropriate information	2	20
	6. Use Project Management tools and techniques to support the provision of a network infrastructure in a range of environments. Produce documentation for recording infrastructure	3	16
Totals		15	100

5 Units

Availability of units

The units for this qualification are available to download from the City & Guilds website at www.cityandguilds.com

Structure of units

The units in this qualification are written in a standard format and comprise the following:

- title
- unit reference
- rationale
- list of learning outcomes
- statement of guided learning hours
- connections with other qualifications
- assessment details
- learning outcomes in detail expressed as practical skills and/ or underpinning knowledge

Unit 301

Concepts of designing and planning a Communications Infrastructure

Level: 3
Credit value: 10
NDAQ number: H/601/0078

Unit aim

This unit is concerned with the principles of Designing and Planning Communications Infrastructures in a range of environments.

Learning outcomes

There are **six** learning outcomes to this unit. The learner will be able to:

- 1 Explain the terms and definitions used and list the different types of communications infrastructures
- 2 Explain the principles of planning and its importance to its drivers
- 3 Explain the importance of UK 3rd party issues
- 4 Discuss the relevance in the UK of Operator License, other legislative requirements and Codes of Practice
- 5 Interpret a customer need in terms of an engineering scope of works
- 6 Use project management tools and techniques and other supporting documentation.

Guided learning hours

The recommended guided learning hours for this unit are **90**.

NVQ Links

This unit provides some of the knowledge and understanding requirements for several of the optional units associated with the NVQ for Communications Technologies professionals

Assessment

This unit will be assessed by:

- Assessment will be by means of a short answer written test covering underpinning knowledge

Unit 301

Concepts of designing and planning a Communications Infrastructure

Outcome 1

Explain the terms and definitions the different types of communications infrastructures

Underpinning knowledge

To effectively perform the range of activities for this unit, the candidate will be able to:

- 1 Describe terms used in conjunction with infrastructure in the communications industry eg Infrastructure, network classes, WAN etc
- 2 Define the infrastructure used in the communications industry eg, duct, chambers, trays, baskets, trunking, earthing, copper cable, fibre cable, joints, splices, masts, towers, buildings, antenna, termination equipment, poles, and associated furniture and discuss their use.
- 3 Describe the different types of infrastructure environments to be found in the communications industry eg underground, overhead, radio, internal
- 4 Describe the network classes to be found in the different environments of the communications industry
 - eg Underground: carrier network, access network, CCTV, CATV, WAN, LAN
 - Overhead: Carrier network, access network, CCTV, CATV, WAN LAN
 - Radio: Carrier network, access network, broadcast network, mobile
 - Satellite: Broadcast
 - Free space optical: WAN, LAN
 - Internal: Structured cabling, access, WAN, LAN

Unit 301

Concepts of designing and planning a Communications Infrastructure

Outcome 2

Explain the principles of planning and its importance to its drivers

The learner can:

- 1 Define the role of infrastructure planning
eg. To determine and enable an assured pathway through survey, liaison and organisation for the cost effective provision or alteration of telecoms plant facilitating an estimate of costs, construction drawings and programming having taken into account the necessary drivers
- 2 Describe the reasons for planning
Assuring the route, Accurate costing, Accurate programming, Supporting the tendering process, Resource/ Contract control, Budget Control, 3rd party assurance, Ensure customer needs are met
- 3 Describe the drivers for planning
Customer orders, strategic planning policies, effective use of maintenance budgets by timely fault reduction, Property / highway development schemes, Circuit growth forecast
- 4 Explain why planning is important to its drivers

Customer order

A customer's telecommunication needs will satisfy growth, improve efficiency, increase profit. The planning of an assured route will enable delivery of the order on time and within budget thus allowing the needs to be met. Failure will not only reflect badly on the telecoms company but could seriously affect the customer's profits and its ability to compete and survive.

Property Development

Sufficient lines are available to tenants on the date of occupation, an assured route will enable such delivery. Failure to deliver on time could result in deferred occupation, loss of a tenant for a developer, loss of business for the tenant and loss of business for telecom operator.

Highway development

Highway development schemes are frequently dependent on the alteration to existing utility plant to allow for the construction works to take place. Inadequate planning will result in the Highway Authority failing to meet its programme and incurring additional costs which could result in litigation. Delays caused by a failure to take into account the necessary aspects of a development scheme would also result in extended disruption to users of the highway and the attendant drain on resources and deferment of other works.

Strategic Planning

Forecast budgets necessary for growth and project cost forecasting, reducing budget short-falls, enabling calendarisation, avoiding premature spend, aiding better budget control, enabling timely provision of additional plant.

A strategic planning policy will enable a company to meet customer orders and forecasted growth requirements proactively by the timely pre-provision of plant. Development of an assured and sustainable pathway is essential in supporting such strategic planning and allowing for a more effective control of capital expenditure.

Maintenance

Planned maintenance should take into account the broader requirements of a company within the geographical area of the plant renewal. This should envelop any needs of the strategic planning requirement and foreseeable development schemes.

Discuss the need for estimates in budget control

A company may need to know in advance what a project will cost to budget for it or to know whether undertaking the project will benefit the business and in what timescale.

Discuss cost effective planning for a range of environments

a) the overhead environment eg pole siting to reduce disruption and signing and guarding and enable maintenance

b) the underground environment eg Calculation of pulling tension on cable to allow for the installation of maximum cable lengths and reduction in joints/splices, maintenance of duct and chamber space capacity by allocation of duct space to installation parties

c) a Local Area Network cabling scheme eg minimal fleeting

- Explain annual charges ie those costs a company needs to take into account to maintain its plant to a sufficient standard. The costs allow for maintenance and the replacement of plant at the end of its residual life.
- Explain inherent construction and maintenance costs

The learner can:

- 1 Identify wayleave and 3rd party issues
- 2 Describe possible 3rd party impacts on a project and the impacts of failure to recognise and negotiate
 - implications of a wayleave transfer
 - insecurity of tenure
 - need for method statements
 - limited installation agreements
 - influence of parish councils
 - the new road and street works act 1991
 - public events
 - critical junctions
- 3 Explain what a preliminary survey would be used for and how one would be carried out. A preliminary survey may be used for: a budget estimate for a project in order to give an idea of costs, costs for inclusion in an invitation to tender, a customer to budget for a future project, identification of potential assured routes. It is usually map based with minor survey work affording cursory investigation into such things as engineering difficulties and 3rd party issues
- 4 Explain what a detailed survey would be used for
 - provide sufficient information to determine the optimum route for construction
 - identify all engineering and 3rd party issues
 - allow a sufficiently accurate estimate of time and quantities to be produced from which costs can be calculated
- 5 Explain why an assured route is critical to programmed delivery and costs
 - funding is critical to a companies' profit and investors
 - budgets for a project will be based on the calculations for the planned route
 - additional costs incurred if route has to be changed once construction starts and possible loss of projected revenues

Unit 301

Concepts of designing and planning a Communications Infrastructure

Outcome 4

Discuss the relevance of the Operator License other legislative requirements and Codes of Practice

The learner can:

- 1 Describe the most important Acts of Parliament and the associated Regulations relevant to infrastructure planning.
The Communications Act 2003, The Telecommunications Act 1984, The Interconnection Regulations 1997, Highways Act 1980, New Roads and Street Works Act 1991, (NRSWA), Health and Safety at Work Act 1974, Environmental Health Act, Traffic Management Act 2006, Town & Country Planning Act
- 2 Explain the impacts of the relevant Acts upon infrastructure planning
- 3 Describe the conditions of the operators license that may affect planning issues.
- 4 Explain Code Powers
- 5 Describe the Codes of Practice and state why they need to be considered at the planning stage. E.g. Code of Practice for the Co-ordination of Street Works.
- 6 Describe the relevant Standards and state why they to be considered at the planning stage. E.g. BSEN50174
- 7 Explain how Health and Safety legislation and associated Regulations affect planning issues

Unit 301

Concepts of designing and planning a Communications Infrastructure

Outcome 5

Interpret a customer's need in terms of an engineering scope of works

The learner can:

- 1 Translate a customer request into an engineering requirement by determining the most important information eg
 - accurately translate a customer's requirements, whether internal or external, into an engineering scope of works that will meet the customer needs
 - interpret the drawings to identify where changes in elevation may be involved
 - interpret policy and turn growth forecasts into an engineering scope of works which will meet the growth potential and which can be budgeted upon
 - maintenance renewal or upgrade works will be addressed with a similar strategic approach to allow for and satisfy budgetary requirements
 - budget requirements will meet the strategic needs of the company and may require phasing of the works over a number of years
- 2 Identify sources of information useful to the design and planning of a Telecoms infrastructure project in a range of environments e.g. internal, external overhead and external underground
 - **Internal:** Customer order, Customer detail, Building drawings, Equipment Specification, Customer Specification, CDM Building Manuals, As-built Records, Site Health & Safety File
 - **Underground:** Customer order, Customer detail, Connection growth figures, Current sales activity, Equipment Specification Maintenance fault rates, Circuit penetration, Highway development schemes, Town plans, Planning applications and approvals, Local Authority resurfacing schemes, Local Authority structures list, Local Authority Co-ordination of Street Works Schedule, Traffic sensitivity street list, Public events list, Land registry, Ordnance survey maps, Strategic Planning Policy, As-built Records
 - **Overhead:** Customer order, Customer detail, Connection growth figures, Current sales activity, Equipment Specification Maintenance fault rates, Circuit penetration, Highway development schemes, Town plans, Planning applications and approvals, Local Authority resurfacing schemes, Local Authority structures list, Local Authority Co-ordination of Street Works Schedule, Traffic sensitivity street list, Public events list, Land registry, Ordnance survey maps, Strategic Planning Policy, As-built Records, Site Health & Safety File, Pipeline Information

Unit 301

Concepts of designing and planning a Communications Infrastructure

Outcome 6

Use project management tools and techniques and other supporting documentation

The learner can:

- 1 identify suitable diagrammatic representation for:
 - the planning process – GANTT chart
 - construction process – Network diagram
- 2 explain how diagrammatic representations may be used in the construction process and the purpose of determining the Critical Path
 - The Critical Path shows those elements of a project that must be completed as programmed. If any of the elements on the critical path slip, this will cause the project to slip.
- 3 maintain the critical path by reallocating resources from non-critical elements
- 4 identify the records necessary to maintain an accurate as-built record for
 - internal or campus infrastructures
 - underground infrastructure
 - overhead infrastructure
- 5 explain the differences between a geographical and a non-geographical record
 - Geographical – as-built, construction drawings
 - Non-geographical – as-built, Straight Line Diagrams (SLD) (duct, aerial cable, underground cable, connectivity, termination)
- 6 state the advantages and disadvantages of using digital media

Unit 302

Design and plan for an internal network cabling infrastructure

Level: 3

Credit value: 10

NDAQ number: T/501/4013

Rationale

This unit will provide the learner with the basic principles needed to plan an underground cable route. Learners will be able to develop an understanding of how internal or campus communications infrastructure is specified, planned and provided.

Outcomes

There are **five** outcomes to this unit

- 1 Prepare for and carry out a site survey for the provision of an internal Networking Cabling Infrastructure (NCI)
- 2 Identify a range of options for the provision of internal NCI services and select the optimum routes
- 3 Produce designs for the provision of an internal NCI
- 4 Produce detailed plans for an internal NCI
- 5 Coordinate the provision of an internal NCI

Guided learning hours

The recommended guided learning hours for this unit are **65**.

Links to Professional Competence (PROCOM) standards

This unit provides some of the knowledge and understanding requirements for several of the optional units associated with the Diploma in ICT Professional Competence.

Assessment

Assessment will be by means of a set assignment covering both practical activities and underpinning knowledge.

Unit 302

Design and plan for an internal network cabling infrastructure

Outcome 1

Prepare for and carry out site survey for the provision of an internal Networking Cabling Infrastructure

Practical activities

The learner will be able to

- 1 identify the areas and systems and equipment required to be surveyed from the planning request
 - equipment accommodation areas
 - existing and planned systems and equipment
 - cable routings
 - power and environmental services
 - building structure
- 2 identify the full range of data required from the survey, .i.e. type, location, and utilisation of plant; measurements; details of other services; hazards
- 3 obtain plans and records of the areas to be surveyed and interpret them
 - floor plans
 - utilisation records
 - duct prints
 - rack layouts
- 4 collect and record the data required from the survey
- 5 record details that may affect the planning options.

Underpinning knowledge

1. identify a range of data required from a site survey
 - utilisation of existing equipment and plant
 - space available for new equipment and plant
 - location of other services
 - availability of other services (power, ventilation)
2. identify a range of equipment and tools required to carry out
 - an internal site survey
 - an external site survey
3. describe the hazards and environmental constraints that may be identified during a site survey

4. identify some of the constraints that could apply to the systems and equipment to be provided
 - accommodation constraints
 - environmental constraints
5. give examples of health and safety issues that could apply during a site survey and explain how they may be resolved
6. describe what actions could be taken when variations are identified between the survey findings and site records and plans
7. explain why it is important to record accurately the findings of the survey.

Unit 302

Design and plan for an internal network cabling infrastructure

Outcome 2

Identify a range of options for the provision of an internal network cabling infrastructure and select the optimum routes

Practical activities

The learner will be able to:

- 1 gather sufficient information to be able to identify future demands for
 - existing communications services
 - proposed new communications services
- 2 plan the collection of the information in a timescale suitable for achieving the forecast future demand
- 3 evaluate the information objectively, and use it to identify a range of options that are sufficiently detailed to enable an objective comparison to be made
- 4 comply with relevant legislation, regulations and organisational obligations
- 5 consider the availability of existing systems, support services and accommodation
- 6 take account of longer term requirements
- 7 calculate the broad costs of the options including: cost of equipment and materials, installation costs, running and maintenance costs,
- 8 select and document the optimum solution in sufficient detail to meet the requirements of the customer
- 9 obtain authority to proceed
- 10 process the selected option to meet agreed timescale for the delivery of the requirements.

Underpinning knowledge

- 1 explain why it is important to consider forecasts for both existing and proposed services when considering viable options
- 2 describe how to confirm the accuracy, currency and reliability of forecast information
- 3 explain why it is important to consider the implications of existing and already planned systems and equipment, support systems and accommodation when considering options
- 4 list the capabilities of the communications system being planned
- 5 explain why it is important to keep abreast of new and emerging technologies
- 6 explain why it is important to evaluate information objectively and without bias to identify viable options
- 7 explain why it is important to cost options over the life time of the equipment or an accepted period
- 8 explain the importance of why it is necessary to evaluate, compare and rank different options according to their relative merits
- 9 describe the basic principles of risk, cost benefit and sensitivity analysis when considering options
- 10 identify what details are critical to decision makers with regards to the proposed solution
- 11 explain what action could be taken when their authority limit has been exceeded.

Unit 302

Design and plan for an internal network cabling infrastructure

Outcome 3

Produce schematic designs for the provision of an internal network cabling infrastructure

Practical activities

The learner will be able to

- 1 produce designs for an internal network cabling infrastructure:
- 2 produce designs that:
 - are based on information that is sufficient, valid, current and reliable
 - take account of present and future requirements
 - contain sufficient detail for components to be identified and quantified
 - optimise resources
 - are practicable, and will deliver the specified communications services
- 3 use design tools that are suitable for the purpose
- 4 identify components for the communications systems that:
 - are approved
 - take account of relevant environmental constraints
 - optimise costs
 - take account of availability and required timescales
- 5 specify the quantities of component taking into account:
 - existing and already planned plant and services
 - present and predictable future requirements
 - design requirements
- 6 specify locations that:
 - optimise resources, and take account of present and predictable future requirements
 - comply with health and safety and other relevant legislation, and regulations
 - minimise interference, degradation or disruption to other services and activities
 - satisfy operational and environmental requirements and constraints
 - take account of other relevant existing and planned plant and services
- 7 identify, evaluate and record actual and potential hazards or hazardous substances which may be encountered at the proposed locations
- 8 document the selected option in sufficient details and obtain relevant authority to proceed.

Underpinning knowledge

- 1 describe and give examples of the different types of an internal network cabling infrastructure including:
 - internal networks
 - communications systems and equipment
 - power and environmental systems
- 2 describe the hierarchy and capacity of each of an internal network cabling infrastructure including:
 - internal networks
 - communications systems and equipment
 - power and environmental systems
- 3 identify and explain the constraints and limitations of an internal network cabling infrastructure including:-
 - internal networks
 - communications systems and equipment
 - power and environmental systems
- 4 identify and explain the operational and environment requirement of an internal network cabling infrastructure:
 - internal networks
 - communications systems and equipment
 - power and environmental systems
- 5 explain why it is important to confirm the currency and reliability of information
- 6 describe how to translate specified communications requirements into realistic and practical designs
- 7 explain where to find information
 - on new and emerging technologies
 - relevant to component supply
- 8 identify possible legislation and regulations that could govern the provision of an internal network cabling infrastructure
 - radio frequency allocation
 - planning authority
 - highways authority.

Unit 302

Design and plan for an internal network cabling infrastructure

Outcome 4

Produce detailed plans for an internal network cabling infrastructure

Practical activities

The learner will be able to

- 1 produce plans that specify works activities that:
 - comply with relevant legislation, regulations, and safe working practices
 - optimise the use of resources
 - deliver the communications services
 - maintain existing services while work is carried out
 - control risks that have been identified
 - identify procedures and instructions to be followed
- 2 produce plans that:
 - accurately identify equipment locations
 - identify the systems, equipment and materials to be provided
 - identify the risks that may be encountered during work activities
 - provide sufficient information to be able to carry out the work
 - identify the manpower required to carry out the work
 - ensure the resources are available to meet the required timescales
- 3 prepare costings that:
 - are based on accurate current information
 - are within budget
 - allow for contingencies
 - are recorded clearly and accurately in an approved format
- 4 calculate the costs of the following resources:
 - systems, equipment and materials
 - accommodation and support services
 - manpower
 - sub-contract work
 - the hire of specialist equipment.

Underpinning knowledge

- 1 list some of the actual and potential risks that may be encountered during work packages and describe how they may be controlled:

- working in confined spaces
 - working at height
 - trailing leads
 - working in close proximity to live equipment
 - hidden live services
 - hazardous materials
 - manual handling and storage of materials and waste
- 2 describe some of the precautions that could be taken to protect existing systems and equipment during work activities
- 3 describe the methods of assessing:
- manpower requirements
 - resource costs
- 4 describe where to find information on the procedures and safe working practices for providing communications systems and equipment:
- organisational
 - manufacturers
- 5 explain why it is a requirement to maintain financial confidentiality when costing plans.
- 6 describe the circumstances where it would be necessary to allocate more than one person to carry out the work activities.

Unit 302

Design and plan for an internal network cabling infrastructure

Outcome 5

Co-ordinate the provision of an internal network cabling infrastructure

Practical activities

The learner will be able to

- 1 identify the work activities to be scheduled and agree the resources available to undertake the work
- 2 obtain details of the work activities to enable the development of a realistic works programme
- 3 schedule the works packages taking into account:
 - their required timescale
 - the availability of resources
 - the inter-dependency of work activities
- 4 allocate work so that it will:
 - enable the effective and efficient use of resources
 - take account of team and individual competencies

Underpinning knowledge

- 1 explain why it is important to identify all the work activities and agree the resources available
- 2 explain why it is important to identify those work activities that:
 - are inter-dependent
 - are on the critical path as far as the overall outcome is concerned
 - require specialist resources
- 3 explain why it is important to review the works programme at regular intervals
- 4 explain why it is important to identify the team's and individual's competencies
- 5 explain why it is important to regularly monitor the safety and quality standards of the people doing the work
- 6 list some of the implications of allowing safety and quality standards to slip
- 7 explain why it is important to regularly monitor the progress of the work activities
- 8 list some of the actions that could be taken if:
 - progress is falling behind target
 - targets are not achieved
 - a budget overspend is identified.

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Level: 3

Credit value: 11

NDAQ number: M/501/4012

Rationale

This unit will provide the learner with the basic principles needed to plan an external overhead cable route. Learners will be able to develop an understanding of how an external overhead communications infrastructure is specified, planned and provided.

Outcomes

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

- 1 prepare for and carry out a site survey for the provision of an external overhead telecoms infrastructure
- 2 produce preliminary designs for the provision of an external overhead communications cabling infrastructure and select the optimum solution
- 3 produce a design for the provision of an external overhead communications cabling infrastructure
- 4 produce detailed plans for an external overhead communications cabling infrastructure
- 5 determine the workflow activities for the provision of an external overhead communications cabling infrastructure.

Guided learning hours

The recommended guided learning hours for this unit are **65**.

Links to Professional Competence (PROCOM) standards

This unit provides some of the knowledge and understanding requirements for several of the optional units associated with the Diploma in ICT Professionals Competence.

Assessment

Assessment will be by means of a set assignment covering both practical activities and underpinning knowledge.

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Outcome 1

Prepare for and carry out site survey for the provision of an external overhead communications cabling infrastructure

Practical activities

The learner will be able to

- 1 identify the areas, systems and equipment required to be surveyed from the planning request
 - existing and planned systems and equipment
 - cable routings
 - power and environmental services
 - building entry
- 2 identify the full range of data required from the survey, i.e. type, location, and utilisation of plant; measurements; details of other services; hazards
- 3 obtain plans and records of the area to be surveyed and interpret them
 - OS Maps
 - cable utilisation records
 - existing utilities and services
- 4 collect and record the data required from the survey
- 5 record details that may affect the planning options.

Underpinning knowledge

- 1 identify a range of data required from a site survey
 - utilisation of existing equipment and plant
 - space available for new equipment and plant
 - location of other services
- 2 identify a range of equipment and tools required to carry out an external overhead infrastructure site survey
- 3 describe the hazards and environmental constraints that may be identified during a site survey
- 4 identify some of the constraints that could apply to the proposed route(s) to be surveyed
 - topographical constraints
 - environmental constraints
 - local developments
- 5 give examples of health and safety issues that could apply during a site survey and explain how they may be resolved

- 6 describe what actions could be taken when variations are identified between the survey findings and site records and plans
- 7 explain why it is important to accurately record the findings of the survey.

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Outcome 2

Produce preliminary designs for the provision of an external overhead communications cabling infrastructure and select an optimum solution

Practical activities

- 1 gather sufficient information to be able to identify
 - future demands for existing telecoms services
 - future demands for proposed new telecoms services
- 2 plan the collection of the information in a timescale suitable for achieving the forecasted future demand
- 3 evaluate the information objectively and use it to identify a range of options that
 - are sufficiently detailed to enable an objective comparison to be made
 - comply with relevant legislation, regulations and organisational obligations
 - consider the availability of existing systems, support services and accommodation
 - take account of longer term requirements
- 4 calculate the budget for the options considering:
 - cost of equipment and materials
 - installation costs
 - design impact on maintenance issues
- 5 select and document the optimum solution in sufficient detail to meet the requirements of the customer
- 6 obtain authority to proceed (eg client signature/order)

Underpinning knowledge

- 1 explain why it is important to consider forecasts for both existing and proposed services when considering viable options
- 2 describe how to confirm the accuracy, currency and reliability of forecast information
- 3 explain why it is important to consider the implications of existing and already planned systems and equipment, support systems and accommodation when considering options
- 4 list the capabilities of the telecoms infrastructure being planned
- 5 explain why it is important to keep abreast of new and emerging technologies
- 6 explain why it is important to evaluate information objectively and without bias to identify viable options
- 7 explain why it is important to cost options over an accepted period

- 8 explain why it is important to evaluate, compare and rank different options according to their relative merits
- 9 describe the basic principles of risk, cost benefit and sensitivity analysis when considering options
- 10 identify what details are critical to decision makers with regards to the proposed solution

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Outcome 3

Produce a design for the provision of an external overhead communications cabling infrastructure

Practical activities

The learner will be able to

- 1 carry out and document a detailed survey on the selected optimum route
- 2 produce designs for an external overhead cabling infrastructure based on the selected optimum route that:
 - are based on information that is sufficient, valid, current and reliable
 - take account of present and future requirements
 - contain sufficient detail for components to be identified and quantified
 - optimise resources
 - are practicable, and will deliver the specified telecoms services
- 3 use design tools that are suitable for the purpose
- 4 identify components for the telecoms systems that:
 - are approved
 - take account of relevant environmental constraints
 - optimise costs
 - take account of availability and required timescales
- 5 specify the quantities of component taking into account:
 - existing and already planned plant and services
 - present and predictable future requirements
 - design requirements
- 6 specify a route that:
 - optimises resources, and takes account of present and predictable future requirements
 - complies with health and safety and other relevant legislation and regulations
 - minimises interference, degradation or disruption to other services and activities
 - satisfies operational and environmental requirements and constraints
 - takes account of other relevant existing and planned plant and services
- 7 identify, evaluate and record actual and potential hazards or hazardous substances which may be encountered at the proposed locations

Underpinning knowledge

- 1 describe and give examples of the different types of telecoms systems:

- external overhead networks
 - external overhead resources
- 2 identify and explain the constraints and limitations of an external overhead communications infrastructure
 - 3 identify and explain the operational and environment requirement of a permanent overhead communications infrastructure.
 - 4 explain why it is important to confirm the currency and reliability of information
 - 5 describe how to translate specified communications requirements into realistic and practical designs
 - 6 explain where to find information
 - on new and emerging technologies
 - relevant to component supply
 - 7 identify possible legislation and regulations that could govern the provision of a external overhead communications cabling infrastructure
 - planning authority
 - highways authority
 - contract with land owners/access restrictions
 - overhead power (proximities)

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Outcome 4

Produce detailed plans for an external underground communications cabling infrastructure

Practical activities

The learner will be able to

- 1 produce plans that specify works activities that:
 - accurately identify locations and sizes of ducts and chambers
 - identify the equipment and materials to be provided
 - identify procedures and instructions to be followed
 - comply with relevant legislation, regulations, and safe working practices
 - optimise the use of resources
 - maintain existing services while work is carried out
 - provide sufficient information to be able to carry out the work
 - identify the manpower required to carry out the work
 - ensure the resources are available to meet the required timescales
 - meet the customer requirements
- 2 calculate the costs of the following resources:
 - equipment and materials
 - accommodation and support services
 - manpower
 - sub-contract work
 - the hire of specialist equipment.
- 3 prepare costings that:
 - are based on accurate current information
 - are within budget
 - allow for contingencies
 - are recorded clearly and accurately in an approved format
- 4 summarise for financial approval and obtain authority to proceed.

Underpinning knowledge

- 1 list typical works packages that could be used to achieve the following:
 - infrastructure installation (poling and cabling, wiring, jointing)

- acceptance testing
- 2 list some of the actual and potential risks that may be encountered during work packages and describe how they may be controlled:
- working at height
 - working in proximity to live equipment
 - working on or nearby motor highways
 - hidden live services
 - manual handling
 - storage of materials and waste
- 3 describe some of the precautions that could be taken to protect existing systems and equipment during work activities
- 4 describe the methods of assessing manpower requirements and resource costs
- 5 describe where to find information on the procedures and safe working practices for providing fixed overhead communication infrastructures
- organisational
 - manufacturers
- 6 explain why it is a requirement to maintain financial confidentiality when costing plans
- 7 describe the circumstances where it would be necessary to allocate more than one person to carry out the work activities.

Unit 303

Design and plan for an external overhead network cabling infrastructure (NCI)

Outcome 5

Determine the workflow activities for the provision of an external overhead communications cabling infrastructure

Practical activities

- 1 identify the work activities to be scheduled and the resources available to undertake the work
- 2 develop a realistic works programme
- 3 schedule the works packages taking into account:
 - their required timescale
 - the availability of resources
 - the inter-dependency of work activities
- 4 allocate work so that it will:
 - enable the effective and efficient use of resources
 - take account of team and individual competencies (training matrix, skill sets)

Underpinning knowledge

- 1 explain why it is important to identify all the work activities and the resources available
- 2 explain why it is important to identify those work activities that:
 - are inter-dependent
 - are on the critical path
 - require specialist resources
- 3 explain why it is important to identify the team's and individual's competencies
- 4 explain why it is important to regularly monitor the safety and quality standards of the work
- 5 list some of the implications of allowing safety and quality standards to slip
- 6 explain why it is important to regularly monitor the progress of the work activities
- 7 list some of the actions that could be taken if:
 - progress is falling behind target
 - targets are not achieved
 - a budget overspend is identified.

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Level: 3

Credit value: 11

NDAQ number: F/501/4015

Rationale

This unit will provide the learner with the basic principles needed to plan an underground cable route. Learners will be able to develop an understanding of how an external, underground, communications infrastructure is specified, planned and provided.

Outcomes

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

- 1 prepare for and carry out a preliminary site survey for the provision of an external underground telecoms infrastructure
- 2 produce preliminary designs for the provision of an external underground communications cabling infrastructure and select the optimum solution
- 3 produce a design for the provision of an external underground communications cabling infrastructure
- 4 produce detailed plans for an external underground communications cabling infrastructure
- 5 determine the workflow activities for the provision of an external underground communications cabling infrastructure

Guided learning hours

The recommended guided learning hours for this unit are **65**.

Links to Professional Competence (PROCOM) standard

This unit provides some of the knowledge and understanding requirements for several of the optional units associated with the Diploma in ICT Professional Competence.

Assessment

Assessment will be by means of a set assignment covering both practical activities and underpinning knowledge.

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Outcome 1

Prepare for and carry out a preliminary site survey for the provision of an external underground communications cabling infrastructure

Practical activities

The learner will be able to

- 1 identify the areas and systems and equipment required to be surveyed from the planning request
 - existing and planned systems and equipment
 - cable routings
 - power and environmental services
 - building entry
- 2 identify the full range of data required from the survey, .i.e. type, location, and utilisation of plant; measurements; details of other services; hazards
- 3 obtain plans and records of the area to be surveyed and interpret them
 - OS Maps 151, 152, 154 and 155 from the Explorer series
 - cable utilisation records
 - existing utilities and services
- 4 collect and record the data required from the survey
- 5 record details that may affect the planning options.

Underpinning knowledge

- 1 Identify a range of data required from a site survey
 - Utilisation of existing plant
 - Space available for new plant
 - Location of other services
- 2 Identify a range of equipment and tools required to carry out an external underground infrastructure site survey.
- 3 describe the hazards and environmental constraints that may be identified during a site survey
- 4 identify the constraints that could apply to proposed routes to be surveyed
 - topographical
 - environmental
 - local developments
- 5 give examples of health and safety issues that could apply during a site survey and explain how they may be resolved.

- 6 describe what actions could be taken when variations are identified between the survey findings and site records or plans.
- 7 explain why it is important to record accurately the findings of the survey.

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Outcome 2

Produce preliminary designs for the provision of an external underground communications cabling infrastructure and select an optimum solution

Practical activities

The learner will be able to

- 1 gather sufficient information to be able to identify
 - future demands for existing telecoms services
 - future demands for proposed new telecoms services
- 2 plan the collection of the information in a timescale suitable for achieving the forecast future demand.
- 3 evaluate the information objectively, and use it to identify a range of options that
 - are sufficiently detailed to enable an objective comparison to be made
 - comply with relevant legislation, regulations and organisational obligations
 - consider the availability of existing systems, support services and accommodation
 - take account of longer term requirements
- 4 calculate the budget for the options considering:-
 - cost of equipment and materials
 - installation costs
 - design impact on maintenance issues
- 5 select and document the optimum solution in sufficient detail to meet the requirements of the customer.
- 6 obtain authority to proceed (e.g. client signature/order).

Underpinning knowledge

- 1 explain why it is important to consider forecasts for both existing and proposed services when considering viable options
- 2 describe how to confirm the accuracy, currency and reliability of forecast information
- 3 explain why it is important to consider the implications of existing and already planned systems and equipment, support systems and accommodation when considering options
- 4 list the capabilities of the telecoms infrastructure being planned
- 5 explain why it is important to keep abreast of new and emerging technologies
- 6 explain why it is important to evaluate information objectively and without bias to identify viable options
- 7 explain why it is important to cost options over an accepted period

- 8 explain why it is important to evaluate, compare and rank different options according to their relative merits
- 9 describe the basic principles of risk, cost benefit and sensitivity analysis when considering options
- 10 identify what details are critical to decision makers with regard to the proposed solution

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Outcome 3

Produce a design for the provision of an external underground communications cabling infrastructure

Practical activities

The learner can:

- 1 carry out and document a detailed survey on the selected optimum route
- 2 produce designs for an external underground cabling infrastructure based on the selected optimum route that:
 - are based on information that is sufficient, valid, current and reliable
 - take account of present and future requirements
 - contain sufficient detail for components to be identified and quantified
 - optimise resources
 - are practicable, and will deliver the specified telecoms services
- 3 use design tools that are suitable for the purpose
- 4 identify and document components for the telecoms systems that:
 - are approved
 - take account of relevant environmental constraints
 - optimise costs
 - take account of availability and required timescales
- 5 specify the quantities of component taking into account:
 - existing and already planned plant and services
 - present and predictable future requirements
 - design requirements
- 6 specify a route that:
 - optimises resources, and takes account of present and predictable future requirements
 - complies with health and safety and other relevant legislation, and regulations
 - minimises interference, degradation or disruption to other services and activities
 - satisfies operational and environmental requirements and constraints
 - takes account of other relevant existing and planned plant and services
- 7 identify, evaluate and record actual and potential hazards or hazardous substances which may be encountered at the proposed locations

Underpinning knowledge

- 1 Describe and give examples of the different types of telecoms systems:
 - external underground networks
 - external underground resources
- 2 identify and explain the constraints and limitations of a permanent communications underground infrastructure
- 3 identify and explain the operational and environmental requirement of a permanent underground communications infrastructure
- 4 explain why it is important to confirm the currency and reliability of information
- 5 describe how to translate specified communications requirements into realistic and practical designs
- 6 explain where to find information
 - on new and emerging technologies
 - relevant to component supply
- 7 identify possible legislation and regulations that could govern the provision of a external overhead communications cabling infrastructure
 - planning authority
 - highways authority
 - contract with land owners/access restrictions

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Outcome 4

Produce detailed plans for an external underground communications cabling infrastructure

Practical activities

The learner will be able to

- 1 produce plans that specify works activities that:
 - accurately identify locations and sizes of ducts and chambers
 - identify the equipment and materials to be provided
 - identify procedures and instructions to be followed
 - identify and control the risks that may be encountered during work activities
 - comply with relevant legislation, regulations, and safe working practices
 - optimise the use of resources
 - maintain existing services while work is carried out
 - provide sufficient information to be able to carry out the work
 - identify the manpower required to carry out the work
 - ensure the resources are available to meet the required timescales
 - meet the customer requirements
- 2 calculate the costs of the following resources:
 - equipment and materials
 - accommodation and support services
 - manpower
 - sub-contract work
 - the hire of specialist equipment.
- 3 prepare costings that: add further criteria, if necessary
 - are based on accurate current information
 - are within the approved budget
 - allow for contingencies
 - are recorded clearly and accurately in an approved format
- 4 Summarise for financial approval and obtain authority to proceed.

Underpinning knowledge

- 1 list typical work packages that could be used to achieve the following:
 - infrastructure installation (civils excavation, duct laying, box building, cable installation, jointing)
 - acceptance testing
- 2 list some of the actual and potential risks that may be encountered during work packages and describe how they may be controlled:
 - working in confined spaces
 - working on or nearby motor highways
 - hidden live services
 - manual handling
 - works equipment (earth moving equipment and winches)
 - storage of materials and waste
- 3 describe some of the precautions that could be taken to protect existing systems and equipment during work activities
- 4 describe methods of assessing manpower requirements and resource costs
- 5 describe where to find information on the procedures and safe working practices for providing external underground communications infrastructures
 - organisational
 - manufacturers
- 6 explain why it is a requirement to maintain financial confidentiality when costing plans.
- 7 describe the circumstances where it could be necessary to allocate more than one person to carry out the work activities

Unit 304

Design and plan for an external underground Network Cabling Infrastructure

Outcome 5

Determine the workflow activities for the provision of an external underground communications cabling infrastructure

Practical activities

The learner will be able to

- 1 identify the work activities to be scheduled and the resources available to undertake the work
- 2 develop a realistic works programme
- 3 schedule the works packages (civils, cable installation, jointing, testing, remedial work and re-testing) taking into account:
 - their required timescale
 - the availability of resources
 - the inter-dependency of work activities
- 4 allocate work so that it will:
 - enable effective and efficient use of resources
 - take account of team and individual competencies (training matrix, skills sets).

Underpinning knowledge

- 1 explain why it is important to identify all the work activities and resources available
- 2 explain why it is important to identify those work activities that:
 - are inter-dependent
 - are on the critical path
 - require specialist resources
- 3 explain why it is important to identify the team's and individual competencies
- 4 explain why it is important to regularly monitor the safety and quality standards of the work
- 5 list some of the implications of allowing safety and quality standards to slip
- 6 explain why it is important to regularly monitor and review the progress of the work activities
- 7 list some of the actions that could be taken if:
 - progress is falling behind target
 - targets are not achieved
 - a budget overspend is identified

Appendix 1 Relationships to other qualifications

Links to other qualifications and frameworks

City & Guilds has identified the connections to previous qualifications. This mapping is provided as guidance and suggests areas of overlap and commonality between the qualifications. It does not imply that candidates completing units in one qualification are automatically covering all of the content of the qualifications listed in the mapping.

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications. For example, units within a qualification may be similar in content to units in the NQF qualification which the candidate may have already undertaken and this may present opportunities for APL.

This qualification has connections to the Level 3 Award/Certificate/Diploma in ICT Systems and Principles and the Level 3 Diploma in Designing and Planning Communications Networks.

NQF units		units	
Number/Title		Number/Title	
L/103/4582	Concepts of Designing and Planning a Network Cabling Infrastructure	H/601/0078	Concepts of Designing and Planning a Network Cabling Infrastructure
R/103/4583	Design and Plan for an Internal Network Cabling Infrastructure	T/501/4013	Design and Plan for an Internal Network Cabling Infrastructure
Y/103/4584	Design and Plan for an External Overhead Network Cabling Infrastructure	M/501/4012	Design and Plan for an External Overhead Network Cabling Infrastructure
D/103/4585	Design and Plan for an External Underground Network Cabling Infrastructure	F/501/4015	Design and Plan for an External Underground Network Cabling Infrastructure

Literacy, language, numeracy and ICT skills development

This qualification includes opportunities to develop and practise many of the skills and techniques required for success in the following qualifications:

- Functional Skills (England) – see www.cityandguilds.com/functionalskills
- Essential Skills (Northern Ireland) – see www.cityandguilds.com/essentialskillsni
- Essential Skills Wales (from September 2010).

Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on www.cityandguilds.com.

Centre Guide – Delivering International Qualifications contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

Providing City & Guilds qualifications – a guide to centre and qualification approval

contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

Ensuring quality contains updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document contains information on:

- Management systems
- Maintaining records
- Assessment
- Internal verification and quality assurance
- External verification.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden**
Find out how to register and certificate candidates on line
- **Events**
Contains dates and information on the latest Centre events
- **Online assessment**
Contains information on how to register for GOLLA assessments.

Useful contacts

UK learners

General qualification information

T: +44 (0)844 543 0033

E: learnersupport@cityandguilds.com

International learners

General qualification information

T: +44 (0)844 543 0033

F: +44 (0)20 7294 2413

E: intcg@cityandguilds.com

Centres

Exam entries, Registrations/enrolment, Certificates, Invoices, Missing or late exam materials, Nominal roll reports, Results

T: +44 (0)844 543 0000

F: +44 (0)20 7294 2413

E: centresupport@cityandguilds.com

Single subject qualifications

Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change

T: +44 (0)844 543 0000

F: +44 (0)20 7294 2413

F: +44 (0)20 7294 2404 (BB forms)

E: singlesubjects@cityandguilds.com

International awards

Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports

T: +44 (0)844 543 0000

F: +44 (0)20 7294 2413

E: intops@cityandguilds.com

Walled Garden

Re-issue of password or username, Technical problems, Entries, Results, GOLLA, Navigation, User/menu option, Problems

T: +44 (0)844 543 0000

F: +44 (0)20 7294 2413

E: walledgarden@cityandguilds.com

Employer

Employer solutions, Mapping, Accreditation, Development Skills, Consultancy

T: +44 (0)121 503 8993

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