Level 4 Diploma in Network Systems and Architecture (9628-04)

Version (4.0) May 2018

Qualification Handbook

Qualification at a glance

Industry area	IT Professional
City & Guilds number	9628
Age group	16+
Assessment	Assignment
Approvals	Approval application required. Please see www.cityandguilds.com for details.
Registration and certification	Registration and certification of this qualification is through the Walled Garden, and is subject to end dates.

Title and level	GLH	TQT	City & Guilds qualification number	Ofqual accreditation number
Level 4 Diploma in Network Systems and Architecture	90	450	9628-04	603/0413/3

Version and date	Change detail	Section
2.0 Jan 2017	Assessment method changed.	Assessment
3.0 Jan 2018	Test specification added	Assessment
4.0 May 2018	Minor corrections made	Learning outcome 1

Contents

1   Introduction

This document tells you what you need to do to deliver the qualification:

Area	Description
Who is the qualification for?	This qualification is designed to support learners to develop a full range of underpinning knowledge that can be used in a variety of businesses and industries that demonstrate confidence and transferability in a Digital Technology Environment.
What does the qualification cover?	Network engineers need to maintain high levels of operation of communication networks in order to provide maximum performance and availability for their users, such as staff, clients, customers and suppliers. The unit will contribute to the enablement of learners to understand network configuration, cloud, network administration and monitoring tools, and be able to give technical advice and guidance.
What opportunities for progression are there?	This qualification is part of the Digital Industries Apprenticeship programme and is not offered as a standalone product. On achieving this qualification the learner will have completed a section of the knowledge element as part of their apprenticeship journey.
Who did we develop the qualification with?	It was developed in collaboration with employers, sector experts and training providers using the Standard as the baseline. The Standards have been created by The Tech Partnership and their Employer Groups for the specific areas. The qualification embodies the required learning for an apprentice to have the opportunity to successfully gain the relevant knowledge for their chosen career path in a Digital Technology environment.
Is it part of an apprenticeship framework or initiative?	Yes – 9648 Network Engineer

Structure

Learners must complete the single unit 404 to gain this qualification.

Total Qualification Time

Total Qualification Time (TQT) is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT is comprised of the following two elements:
- The number of hours which an awarding organisation has assigned to a qualification for Guided Learning, and
- an estimate of the number of hours a Learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by - but, unlike Guided Learning, not under the Immediate Guidance or Supervision of - a lecturer, supervisor, tutor or other, appropriate provider of education or training.

Title and level	GLH	TQT
Level 4 Diploma in Network Systems and Architecture	90	450

2 Centre requirements

Approval

Fast Track Approval is offered to existing City & Guilds Centres offering the SASE framework for the Advanced and/or Higher Level Apprenticeship for IT, Software, Web and Telecoms, or the SASW framework for the Apprenticeship and/or Higher Level Apprenticeship for IT, Software, Web and Telecoms through City & Guilds. See the separate document on our website that provides details of the Fast Track Process and actions to be taken.

City & Guilds is offering the opportunity for existing City & Guilds centres delivering SASE framework for the Advanced and/or Higher Level Apprenticeship for IT, Software, Web and Telecoms, or the SASW framework for the Apprenticeship and/or Higher Level Apprenticeship for IT, Software, Web and Telecoms with other Awarding Organisations to gain approval for these Apprenticeship Standards through the Common Approval Framework. See the separate document at www.cityandguilds.com which provides details of the New Programme Process and actions to be taken.

Centres that are not currently with City & Guilds will need to complete a Customer Application Form and once accepted they will be asked to complete the Centre Approval Process. See the separate document on our website that provides details of the New Centre Approval Process and actions to be taken.

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

Resources

Please see the individual unit information for any resources required.

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:
- be occupationally competent or technically knowledgeable in the area[s] for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

While the Assessor/Verifier (A/V) units/TAQA are valued as qualifications for centre staff, they are not currently a requirement for these qualifications. However, City & Guilds encourage trainers and assessors to qualify to the current TAQA standard. Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but cannot internally verify their own assessments.

Continuing Professional Development (CPD)

Centres are expected to support their staff in ensuring that their knowledge and/or practice remains current. This includes currency within the occupational area and of best practice in delivery, mentoring, training, assessment and quality assurance. It should also take account of any national, international policy and legislative developments.

Internal quality assurance is key to ensuring that the assessment of evidence for units is of consistent and appropriate quality. They should:

- be occupationally competent or technically knowledgeable in the area for which they are internally quality assuring
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training
- have a CV available demonstrating relevant experience and any qualifications held.

In certain circumstances, City & Guilds will recognise non-accredited learning and experience as equivalent as follows:

If the Internal Quality Assurer does not hold a qualification they must be able to demonstrate evidence of working to their own organisation's internal quality assurance standards which clearly link to V1/TAQA or other equivalent standards for internal quality assurance.

Learner entry requirements

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that learners have the potential and opportunity to gain the qualifications successfully and that they have the full engagement of the employers for the full programme.

Age restrictions

City & Guilds cannot accept any registrations for learners under 16 as these qualifications are not approved for learners under 16.

3 Delivering the qualification

Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to identify:
- if the learner has any specific training needs
- support and guidance they may need when working towards their qualifications
- any units they have already completed, or credit they have accumulated which is relevant to the qualifications
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the learner fully understands the requirements of the qualification[s], their responsibilities as a learner, and the responsibilities

Recording documents

Learners and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems, including our own, Learning Assistant, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: www.cityandguilds.com/eportfolios.

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. Recording forms are available on the City & Guilds website.

Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by learners and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.

.

4 Assessment

Summary of assessment methods

Candidates must:

- successfully complete one assessment for the mandatory unit

Assessment Types			
Unit	**Title**	**Assessment method**	**Where to obtain assessment materials**
404	Network Systems and Architecture	Evolve on-line tests	www.cityandguilds.com

Assessment strategy

Test Specifications

The way the knowledge is covered by each test is laid out in the table below:

Assessment type: Multiple-choice online test
Assessment conditions: Invigilated examination conditions
Grading: Pass/Fail
Number of questions: 30
Pass mark: 21 (70%)

Unit 404 - Duration: 45 minutes		
Learning Outcome	**Number of marks**	**%**
1. Understand concepts affecting server selection	11	38
2. Understand the roles of servers	8	26
3. Understand network storage	4	13
4. Understand maintenance and troubleshooting of servers	7	23
Total	**30**	**100**

Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience, or qualifications which have already been achieved, to contribute to a new qualification.

For this qualification, RPL is not allowed.

5 Administration

Quality assurance

Internal quality assurance

Registered centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre registration by City & Guilds and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance.

Standards and rigorous quality assurance are maintained by the use of:
* internal quality assurance
* City & Guilds external moderation.

In order to carry out the quality assurance role, Internal Quality Assurers must have appropriate teaching and vocational knowledge and expertise.

Access arrangements

We can make arrangements so that learners with disabilities, special educational needs and temporary injuries can access the assessment. These arrangements must be made before the examination. For example, we can produce a Braille paper for a learner with visual impairment.

Language of examinations

We will provide this specification in English only.

Other issues

European Dimension

City & Guilds has taken account of the 1988 Resolution of the Council of the European Community in preparing this specification and associated specimen units.

Environmental Education

City & Guilds has taken account of the 1988 Resolution of the Council of the European Community and the Report Environmental Responsibility: An Agenda for Further and Higher Education 1993 in preparing this specification and associated specimen units.

Avoidance of bias

City & Guilds has taken great care in the preparation of this specification and specimen units to avoid bias of any kind.

6   Units

Availability of units

The unit information can be found in this document.

Structure of the units

These units each have the following:
- City & Guilds reference number
- Title
- Level
- Guided learning hours (GLH)
- Learning outcomes, which are comprised of a number of topics

Centres must deliver the full breadth of the range. Specialist equipment or commodities may not be available to all centres, so centres should ensure that their delivery covers their use.

Unit 404 Network Systems and Architecture

LEVEL	4
GLH:	60

What is this unit about?

This unit provides learners with an understanding of the role of a network engineer who plans, installs, configured, maintains and supports complex computer networks. Learners will gain an understanding of different network layering models, physical and logical network components, TCP/IP network configuration, network servers and services, and associated security concepts.

The primary role of a network engineer is to design, install, maintain and support communication networks within an organisation or between organisations. Network engineers need to maintain high levels of operation of communication networks in order to provide maximum performance and availability for their users, such as staff, clients, customers and suppliers. They will understand network configuration, cloud, network administration and monitoring tools, and be able to give technical advice and guidance.

- Upon completion, learners studying this unit will have gained the knowledge to support the competencies of a Network Engineer. Specific competencies supported by this unit include being able to undertake the following tasks:
  Identifies and resolves network problems following agreed procedures. Uses network management software and tools to collect agreed performance statistics. Carries out agreed network maintenance tasks.

- Installs or removes hardware and/or software, and associated connections, using supplied installation instructions and tools. Conducts tests and corrects malfunctions, calling on help from more experienced colleagues if required. Documents results in accordance with agreed procedures. Assists with the evaluation of change requests. Contributes, as required, to investigations of problems and faults concerning the installation of hardware and/or software and confirms the correct working of installations.

- Carries out agreed operational procedures of a routine nature. Contributes to maintenance, installation and problem resolution.

- Maintains the network support process and checks that all requests for support are dealt with according to agreed procedures. Uses network management software and tools to investigate and diagnose network problems, collect performance statistics and create reports, working with users, other staff and suppliers as appropriate.

- Installs or removes hardware and/or software, and associated connections, using supplied installation instructions and tools. Conducts tests and corrects malfunctions, calling on help from more experienced colleagues if required. Documents results in accordance with agreed procedures. Assists with the evaluation of change requests. Contributes, as required, to investigations of problems and faults concerning the installation of hardware and/or software and confirms the correct working of installations.

- Receives and handles requests for support following agreed procedures. Responds to common requests for support by providing information to enable resolution and promptly allocates unresolved calls as appropriate. Maintains records and advises relevant persons of actions taken.

Learning outcomes

In this unit, learners will be able to

1   Understand concepts affecting server selection
2   Understand the roles of servers
3   Understand network storage
4   Understand maintenance and troubleshooting of servers

Scope of content

Learning outcome

---

1   Understand concepts affecting server selection

Topics

1.1   Server hardware
1.2   Factors that affect server configuration
1.3   OS virtualisation
1.4   Configure a virtual machine

Depth

Topic 1.1

Learners should develop a knowledge of the hardware and software components that form a server, to include but not limited to:

- CPU
  - Dual / quad core
  - Clock speed
  - Bus width supported
- Memory
  - Type
  - Clock speed
  - Number of pins
- Native storage (Flash, disk based)
  - Storage connection methods

    - eSATA,
    - IEEE 1394 (Firewire)
    - Thunderbolt
    - USB

- I/O busses and adapters
  - PCI
  - PCIe
  - Networking adapters
  - Display adapters
  - Storage adapters
- I/O devices
  - Displays
  - Input devices

    - Keyboard

     –   Mouse

Topic 1.2

The learner should install and configure a server (or configure partition(s) within a server) and test connection it to an existing network.

- Prepare a server (or partition) for installation
  - o   Memory / CPU allocation (if using partitioning)
  - o   Disk format / partitioning
- Install the operating system
  - o   Base system install
  - o   Install updates / patches
- Configure network connectivity
  - o   IP address, subnet, default route
  - o   Name resolution, network time services
- Test connectivity to one or more remote network services
  - o   Web server
  - o   DNS name server

The learner should be able to explain how to configure the elements required to enable a server to perform a specified role.

- Disk partitioning
- Disk formatting
- Types of installation
  - o   Base system installation
  - o   Upgrade
- Network connectivity – NIC
  - o   DHCP
  - o   DNS
  - o   NAT
  - o   IP addresses

Topic 1.3

The learner should be able to describe the concept of virtualization, including but not limited to:

- Purpose of Virtualisation
- Types of HyperVisor
  - o   Native to hardware
  - o   Hosted
  - o   Kernel Based (Native to OS)
- Role of the HyperVisor
  - o   Resource allocation / dynamic management
  - o   Partition startup/shutdown
  - o   Partition snapshots
- Types of machine partitioning software
  - o   Full virtualisation

- o   Partial virtualisation
- o   Para virtualisation
- Benefits of partitioned machines, including but not limited to:
  - o   More efficient resource utilization
  - o   Rapid build of new servers
  - o   Ability to run multiple OS versions in parallel
- Drawbacks of partitioned machines, including but not limited to:
  - o   Lack of physical separation
  - o   Single point of failure

Security risks

Topic 1.4

The learner should be able to install and configure one or more virtual machines and manage resource allocation using a HyperVisor:

- Prepare server for Virtualisation
- Install Virtualisation software
- Configure one or more partitions (or Virtual Machines)
  - o   Start and stop partitions
  - o   Redistribute partition resources
- The learner should be able to explain the elements that require configuration for a server to support virtualisation.
- Software
  - o   HyperVisor
- Storage
- Migration of data
- Network configuration
- Quota configuration

Learning outcome

2   Understand the roles of servers

Topics

2.1   Roles and types of server
2.2   Install and configuration of network services
2.3   Middleware and application services
2.4   Server workload balancing

Depth

Topic 2.1

Learners will be able to explain the roles and services provided by servers, including but not limited to:

- Provision of shared network services
  - Application sharing
  - Centralised file storage
  - Centralised administration
- Simplified management
- High Availability
  - Redundancy
  - Failover
- Disaster Recovery
  - Data backup
  - Geographic dispersal
  - Application mirroring
- Workload distribution
  - Scalability
  - Load Balancing

Topic 2.2

Learners will describe how to configure a range of network services and test their operation, such as but not restricted to, the following examples:

- Network Administration
  - Active Directory / LDAP
  - User groups
  - Encryption
  - Group Polices
  - Operating system interoperability
    - POSIX
- Directory Services
  - DNS
  - NIS
  - Apache Directory Server
- Filing System Sharing
  - NTFS
  - DFS
  - HDFS
  - SMB/Samba
- Mail services
  - Apache James
  - MS Exchange
- Web server
  - Apache
- Management / monitoring
  - SNMP Monitor

Topic 2.3

Learners will explain middleware and application services in a networking context through examples and case studies. Examples may include:

- The role of Middleware compared with OS
  - o Ambiguity of definition (compared to OS functionality)
- The role of Application software compared with Middleware
  - o Ambiguity of definition (compared to Middleware)
  - o Examples of Middleware and Applications
    - – Messaging, Web Services, Transaction Processing Monitors, Web Apps, Information Management, ERP

Topic 2.4

Learners will describe the purpose, benefits and drawbacks of server workload balancing illustrated with examples:

- The purpose and benefits of distributed workload balancing
  - o Maximise resource utilization
  - o Minimise response time
  - o Avoid overload
  - o Eliminate single point of failure (SPOF)
- Drawbacks of workload balancing
  - o Complexity of configuration
  - o Administrative and maintenance overhead
  - o Increased cost of implementation and ownership
  - o Increased points of failure
- Examples of workload balancing in action:
  - o Directory services
  - o Web servers
  - o Network / Routing
  - o Relationship to failover / redundancy

Learning outcome

3   Understand network storage

Topics

3.1   Types of Network Storage
3.2   Key storage protocols
3.3   Network Storage Devices configuration

Depth

Topic 3.1

Learners will describe a range of different storage solutions used in networks for online and offline storage. Examples should be used to illustrate concepts such as, but not limited to:

- Storage Area Networks (SANs)
- Network Attached Storage (NAS)

- Cloud based storage solutions
  - o Public, Private and Hybrid
- Archival storage
  - o Localised, remote

Topic 3.2

Learners will be introduced to some of the key storage protocols used for network attached storage, including but not limited to:

- Storage Area Network
  - o Fibre Channel SAN
  - o Fibre Channel over Ethernet
  - o iSCSI SAN
- Network Attached Storage
  - o Network File System (NFS)
  - o Server Message Block (SMB/CIFS)

Topic 3.3

Learners will describe how to configure network storage devices and profile file sharing services:
- Configuring network storage
  - o NAS
  - o SAN
  - o Locally attached RAID
- Configuring network file sharing service
  - o File sharing to one or more clients
  - o Testing file sharing

Learning outcome

4   Understand maintenance and troubleshooting of servers

Topics

4.1   Typical causes of system failure
4.2   Consequences of system failure
4.3   Preventative and reactive measure to cope with system failure

Depth

Topic 4.1

Learners will be able to describe typical causes of system (or service) failure illustrated with some examples of each of the following classifications:

- Hardware failure

- - Component failure
  - Intermittent hardware outages (overload, overheating)
  - Power failure limited to the server
- Software failure
  - Causes and effects
- Network failure
  - Localised to server
  - Localised to logical connection
  - Systemic to network
- Administration / User error
  - Planned versus unplanned outage
  - Administrative procedures for planned outage
- Site disaster (localised)
  - Site wide power loss
  - Fire, flood, A/C failure
  - Terrorism, Sabotage, Force Majeure (civil or military)
- Geographic disaster
  - Earthquake, flooding
  - Weather conditions
    - Hurricane, ice storm
  - City wide power outage

Topic 4.2

Learners will describe the possible consequences of system or service failure, and their impact upon business operations, including but not limited to:

- Loss or degradation of service
  - Temporary versus long-term
  - Regulatory impact
- Loss or reduction in productivity
  - Measuring loss productivity
- Loss of revenue
  - Immediate versus long-term
- Impact to reputation
  - Market confidence
  - Shareholder impact
  - Impact upon clients / customers
- Environmental impact
  - Regulatory / compliance impact
  - Corporate social responsibility implications
  - Cost implications (clean-up)
- Injury / loss of life
  - Legal impact
  - Cost implications

Topic 4.3

Learners will describe a range of preventative and reactive measure to cope with system failure, including but not limited to:

- Preventative measures
  - Risk analysis / Risk registers
  - Administrative procedures
    - Change management
    - Testing
    - Phased migration
  - Infrastructure maintenance
  - Redundancy / workload distribution
- Reactive measures
  - High Availability / Disaster Recovery
    - System failover
    - Service failover
    - Hot / warm site
  - Business Continuity
    - Backup site
    - Restore from archive

Guidance for delivery

Wherever possible this unit should be delivered within a workshop environment providing the learners with paper based, or hands on practical exercises and case studies representative of IP networking in operation. Learners should be encouraged to explore and use as wide a range of hardware and software as possible, this should also include researching and utilising new an emerging technologies where available. Whichever method (s) are used, learners should experience a variety of technologies.

Note: When designing or creating a network the learner should incorporate at least two interconnection devices spanning three logical networks (i.e., two hops), more complex networks with multiple routes between hosts are desirable. Learners may also add peripherals to the network if required.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the consortium has links, and with employers used for work experience placements.

It would be helpful for teachers to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

- Local branches of BCS The Chartered Institute for IT can often provide access to local employers, since many members will be senior practitioners and leaders in organisations that employ IT professionals. The BCS has an extensive branch network of volunteers operating across the UK, Channels Islands and Isle of Man. http://www.bcs.org/category/5897

- Invite local businesses to visit the delivery centre to talk about their experience in using Digital Technology for commercial advantage, especially in respect of their dealing with suppliers, customers and employees. Ask the students to identify aspects of the IT practices of local business that may be considered 'good practice'.

- Identify local small businesses that have no IT governance policy or guidelines. Invite them to attend a short presentation and discussion event wherein students outline by way of presentation and demonstration a short set of (maximum 10 items) good practices for IT governance and be prepared to answer questions from the audience.

- Invite the local constabulary to come and speak on examples of where businesses and individuals have been victims of crime as a result of their use of IT, and how IT is used in law enforcement (e.g., the Automatic Number Plate Recognition System (ANPR)).

- Approach the local chamber of commerce to attend a student debate on the need for greater awareness and engagement with the Digital Economy on the part of small business where. Choose a debatable question that can be supported or opposed such as 'This house believes that Internet sales channels are of equal importance to small/local retailers as they are to global corporates.'

- Larger enterprises and central government agencies with local offices are likely to have formalised IT governance policies, especially in technology enabled industries such as Banking, Insurance, Telecommunications and Logistics. These organisation may be willing to offer the time of their Chief Information Officer, an IT manager or technical professional to present to learners on the steps their organisation takes to protect against IT security threats.

- Website designers working in the local economy will often have extensive links with small business that have commissioned them to design, develop and maintain ecommerce sites. Invite a local web designer to come and speak about the challenges their clients face in implementing an online presence.

- The Computing/IT faculty of every university will have links to employers in the local economy and their faculty staff may be willing to introduce delivery centres to major employers of IT skilled graduates and apprentices. Such links should be developed by FE colleges so as to better understand the skills needs and career options for IT practitioners at all levels from school leaver to graduate (i.e., think of how your learners can develop their career beyond the FE stage, and open their eyes to a full career).

- Tech Partnership, the UK sector skills council for the IT/Telecoms industry, have an extensive list of small/medium sized employers of IT skilled apprentices and college leavers. They also provide a wealth of free resources for FE colleges to enable better engagement with local employers. https://www.thetechpartnership.com/

Suggested learning resources

Books
Storage Area Networks Essentials
Published by: Veritas

Introduction to Storage Area Networks and System Networking
Published by: IBM

Mastering VMWare vSphere
Published by: Wiley

Server+ Study Guide
Published by: Wiley

Windows Server 2012: HyperV Installation and Configuration Guide
Published by: Wiley

Websites

http://www.vmware.com/uk/virtualization
http://home.ubalt.edu/abento/315/hypervisor/index.html
http://www.redbooks.ibm.com/abstracts/sg245470.html
https://www.youtube.com/watch?v=teEsgqI49Dk
https://www.youtube.com/watch?v=NmrJlWDG0yk

Appendix 1   Relationships to other qualifications

Links to other qualifications

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications.

Literacy, language, numeracy and ICT skills development

This qualification can develop skills that can be used in the following qualifications:

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

Appendix 2   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 Manual - Supporting Customer Excellence 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, as well as updates and good practice exemplars for City & Guilds assessment and policy issues.

Specifically, the document includes sections on:
- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Our Quality Assurance Requirements encompasses all of the relevant requirements of key regulatory documents such as:

- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

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 on such things as:

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

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.

City & Guilds
Believe you can

www.cityandguilds.com

Useful contacts

UK learners General qualification information	**E: learnersupport@cityandguilds.com**
International learners General qualification information	F: +44 (0)20 7294 2413 **E: intcg@cityandguilds.com**
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	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	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	F: +44 (0)20 7294 2413 **E: intops@cityandguilds.com**
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	F: +44 (0)20 7294 2413 **E: walledgarden@cityandguilds.com**
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 **E: business@cityandguilds.com**
Publications Logbooks, Centre documents, Forms, Free literature	F: +44 (0)20 7294 2413