

Unit 10: Planning and supporting telecommunications (LEVEL 2)

Learning outcomes

By completing this unit candidates will be able to demonstrate an understanding of telecommunications.

They will be able to:

- report on the telecommunications requirements of a specific organisation, business or client
- identify and make recommendations for proposed design solutions to fulfil the requirements of the client
- create a design proposal for the proposed telecommunications service
- create an installation plan for the proposed telecommunications service
- produce reports detailing and evaluating the telecommunications systems and services acquired and installed.

It is anticipated that a candidate will require 60 guided learning hours to complete this unit.

| Assessment objectives | Knowledge, understanding and skills |
|--|--|
| Assessment Objectives 1 to 5 relate to a single end-user selected by the candidate | |
| 1 Report on the telecommunications requirements of a specific organisation, business or client | Current and future telecommunications requirements eg: <ul style="list-style-type: none">• number of points• speed of connection• filtering• security• hardware• bandwidth• end-user requirements |
| 2 Identify and make recommendations for proposed design solutions to fulfil the requirements of the client | Recommendations for different solutions might include: <ul style="list-style-type: none">• cost of equipment• installation costs• support/maintenance costs• running costs• conformance with legislation and regulations• meeting customer requirements• compatibility with existing system• implementation time and method |
| 3 Create a design proposal for the proposed telecommunications service | Formal design proposal for telecom services includes: <ul style="list-style-type: none">• customer requirements• how customer requirements met• consideration of future requirements and developments• use of appropriate tools to draw the design• quantity of components required• locations for equipment• provide sufficient information to carry out the work• costing |

| Assessment objectives | Knowledge, understanding and skills |
|---|---|
| 4 Create an installation plan for the proposed telecommunications service | <p>Installation details of changeover from existing system to new system including:</p> <ul style="list-style-type: none"> • timescale of work and changeover • hazards • legislation and regulations that need to be met • how to minimise loss of service to staff and customers • manpower required • costs involved • suggest training required and proposed dates of training |
| 5 Produce reports detailing and evaluating the telecommunications systems and services acquired and installed | <p>Reports include:</p> <ul style="list-style-type: none"> • initial system requirements • proposed design • implementation log • comparison of implemented system against designed system • evaluation of new system |

Assessment

This unit is centre assessed and externally moderated.

In order to achieve this unit, candidates must produce a portfolio of evidence showing that they have met all of the assessment objectives.

Portfolios of work must be produced independently. They will need to be made available, together with witness statements and any other supporting documentation, to the OCR Visiting Moderator when required.

Centres must confirm to OCR that the evidence produced by candidates is authentic. An OCR Centre Authentication Form is provided in the Centre Handbook and includes a declaration for assessors to sign. It is a requirement of the QCA Common Criteria for all Qualifications that proof of authentication is received.

Guidance on assessment and evidence requirements

This is a practical unit where candidates will need time and the necessary hardware and software to practice the skills and techniques for the unit. The telecommunications service utilised for the delivery of this unit should be that which is commonly found in a business setting.

For Assessment Objectives 1 to 5 a single end-user should be selected. The evidence may be produced through work experience or by looking at a system used by the centre.

For Assessment Objective 1 candidates should report on the telecommunications requirements of a specific organisation, business or client. They should assess current and future telecommunications requirements, for example, number of points, connection speed, filtering, security, hardware, bandwidth, end user requirements.

For Assessment Objective 2 candidates should identify and make recommendations for proposed design solutions to fulfil the client's requirements. These recommendations could include costs of equipment, installation, support/maintenance and running costs. Candidates should report on the compatibility with any existing system, implementation time and method, conformance with legislation and regulations, meeting customer requirements.

For Assessment Objective 3 candidates should create a formal design proposal for the proposed telecommunications service. This should include the client's requirements and how these were

met, consideration of future requirements and developments, use of appropriate tools to draw the design, quantity of components required, equipment locations and costing.

For Assessment Objective 4 candidates should create an installation plan of the changeover from the existing system to the new system for the proposed telecommunications service. The plan should include details of legislation and regulations that need to be met, timescale of the work and changeover, hazards, costs involved, manpower required, how to minimise loss of service to staff and customers, suggested training required and proposed dates of training.

For Assessment Objective 5 candidates should produce evaluation reports detailing the telecommunications systems and services acquired and installed. The report should include the initial system requirements, proposed design and implementation log. They should compare the implemented system against the designed system and evaluate the new system.

Candidates may provide portfolio evidence for the assessment objectives of this unit using a range of presentation techniques. These may include written data, the use of video, audio or computer-based presentation, and assessor testimony/witness statements (if appropriate). Where candidates demonstrate competence, centres should record skills demonstrated on appropriate recording documentation.

Signposting to Key Skills

- ✓ The unit contains opportunities for developing the Key Skill, and possibly for generating portfolio evidence, if teaching and learning is focused on that aim.

| Key Skill reference | | Key Skill reference | | Key Skill reference | |
|---------------------|---|---------------------|---|---------------------|---|
| C2.1a | | ICT2.1 | ✓ | N2.1 | |
| C2.1b | | ICT2.2 | ✓ | N2.2 | ✓ |
| C2.2 | | ICT2.3 | ✓ | N2.3 | |
| C2.3 | ✓ | | | | |

Mapping to National Occupational Standards

| National Occupational Standards | Reference ID | Title |
|----------------------------------|--------------|---|
| Telecommunications (e-skills UK) | UPA2 | Database software Level 2 |
| Telecommunications (e-skills UK) | CC2 | Customer care Level 2 |
| Telecommunications (e-skills UK) | IDR2 | Investigating and defining requirements Level 2 |

Resources

This section provides suggestions of suitable resources. The list is neither prescriptive nor exhaustive, and candidates should be encouraged to gather information from a variety of sources. Some suggested resources are intended for Tutor use. The resources in this section were correct at the time of production.

Books

Newton, H. *Newton's Telecom Dictionary: The Authoritative Resource for Telecommunications, Networking, the Internet and Information Technology*

Goleniewski, L. *Telecommunications Essentials*
Langhoff, J. *Telecom Made Easy*
Dodd, A. Z. *The Essential Guide to Telecommunications*

Websites

Telecommunications – Guidelines for Accessibility.

URL:<http://www.tiresias.org/telecoms/index.htm>. This site looks specifically at telecommunications systems for elderly and disabled people but contains useful design points that are universally applicable.

UK eHealth Association.

URL:<http://www.ukeha.org.uk/corporate/TM%20Glossary%20TSIGpage.htm>. This page contains a useful overview and comprehensive glossary of terms.

Grading

| Assessment Objective | Pass | Merit | Distinction |
|--|---|--|--|
| AO1 Report on the telecommunications requirements of a specific organisation, business or client | <p>Candidates will identify the information (both the current capabilities of the system and the future system needs) that they would need in order to analyse the current and future customer requirements.</p> <p>The information provided will include the number of network points, the bandwidth requirements, filtering, security, what hardware is in place, how the end-users currently use the system, and a basic outline of the future requirements.</p> <p>The document may be a simple list.</p> | <p>Candidates will identify most of the information required to analyse the current and future customer requirements. They will provide an explanation about the importance of this information and why it is needed.</p> <p>Their report will include the number of network points, the bandwidth requirements, filtering, security, what hardware is in place, how the end users currently use the system, and an outline of the future requirements</p> | <p>Candidates will identify all of the information required to analyse the current and future customer requirements. They will provide a detailed explanation about the importance of this information and why it is needed.</p> <p>Their report will detail the capabilities of the currently installed system and an analysis and description of the future requirements of the telecommunications system. Each requirement will be cross-referenced against the information collected. The report will include the number of network points, the bandwidth requirements, filtering, security, what hardware is in place, how the end-users currently use the system and a detailed analysis of the future requirements.</p> |
| AO2 Identify and make recommendations for proposed design solutions to fulfil the requirements of the client | <p>Candidates will make recommendations for a new design solution to meet the future requirements of the telecommunications system.</p> <p>The solutions produced will be based on the future system requirements they have identified. The solutions identified will be very basic but will meet the customer's future requirements.</p> <p>Estimates of the costs of the new system will be included but these may not take</p> | <p>Candidates will make recommendations for different design solutions to meet the future requirements of the telecommunications system.</p> <p>The solutions produced will be based on the future system requirements they have identified. The solutions identified will include most of the customer's future requirements.</p> <p>Estimates of all the costs involved in the purchase, installation support and</p> | <p>Candidates will make recommendations for different design solutions to meet the future requirements of the telecommunications system.</p> <p>The solutions produced will be based on the future system requirements they have identified. The solutions identified will include all of the customer's future requirements.</p> <p>Estimates of all the costs involved in the purchase, installation support and</p> |

| Assessment Objective | Pass | Merit | Distinction |
|--|--|---|--|
| AO2 Cont. Identify and make recommendations for proposed design solutions to fulfil the requirements of the client | account of all costs involved. Reference will be made to current legislation but this will not be detailed. Little consideration will have been given to the compatibility with the existing system or the implementation time and method. | maintenance of the new system will be given. Reference will have been made to current legislation, the compatibility with the existing system, and the time and method of implementation will have been considered. | maintenance of the new system will be given. Detailed reference will have been made to current legislation and the compatibility with the existing system, and the time and method of implementation will have been considered at some depth. At least two of the solutions must be significantly different; they cannot be almost the same with just a few elements changed. |
| AO3 Create a design proposal for the proposed telecommunications service | Candidates produce a design proposal based on one of their proposed solutions. The proposal details the customer requirements and how they have been met, the equipment and components required, where the new system will be located, and costs involved. Some simple drawings to support the proposal will be included. The formal design document will not cover all aspects of the design. | Candidates produce a design proposal based on one of their proposed solutions. The proposal details the customer requirements and how they have been met, the equipment and components required, where the new system will be located and costs involved. Clear drawings to support the proposal will be included. The formal design document will cover all aspect of the design, although some aspects may be lacking in detail. | Candidates produce a design proposal based on one of their proposed solutions. The proposal details clearly the customer requirements and how they have been met, the equipment and components required, where the new system will be located and costs involved. Detailed drawings to support the proposal will be included. The formal design document will cover all aspects of the design in some detail. It will outline how the new system will meet future requirements and will explain how it can be adapted to meet expansion of the organisation and future IT developments. |

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| AO4 Create an installation plan for the proposed telecommunications service | Candidates will create a basic installation plan; this will include the timescale, cost, personnel, legislation, hazards and broad suggestions of how to avoid disruption to customers and training requirements. The plan will lack detail and will be quite simple. | Candidates will create a clear installation plan; this will detail the timescale, cost, personnel, legislation, hazards and broad suggestions of how to avoid disruption to customers, and training requirements. | Candidates will create a detailed installation plan; this will detail clearly the timescale, cost, personnel, legislation, hazards and broad suggestions of how to avoid disruption to customers, and training requirements. All elements listed under Assessment Objective 4 will be covered. The plan will be clear and professional. |
| AO5 Produce reports detailing and evaluating the telecommunications systems and services acquired and installed | Candidates will produce a brief report evaluating the new system. They will outline how the new system differs from the original system and detail how it matches the customers' present and future requirements. The report will only be basic and with few suggestions for further improvements. | Candidates will produce a report evaluating the new system. They will outline how the new system differs from the original system and will detail how it matches the customer's present and future requirements. The report will be detailed and will include at least one suggestion for further/future improvements. | Candidates will produce a detailed report evaluating the new system. They will report on how the new system differs from the original system and will detail how it matches the customer's present and future requirements. The report will be comprehensive and will include all suggestions for further/future improvements. |