



National Unit specification: general information

Unit title: Computing: Installing a Standalone System (SCQF level 5)

Unit code: FW04 11

Superclass: CA

Publication date: September 2011

Source: Scottish Qualifications Authority

Version: 01

Summary

This Unit develops candidates' knowledge and skills in installing a standalone system in response to a client request, while adhering to current health and safety regulations. Candidates are required to work through each stage of setting up the computer workstation, from taking delivery, physically installing, through to personalising the operating system and additional application software to the client's specific needs.

This is a mandatory Unit in the NC Computing: Technical Support (SCQF level 5). It is also available as a standalone Unit.

This Unit is suitable for a wide range of candidates and it is particularly appropriate for those who are interested in a career in technical support or a similar area.

Outcomes

- 1 Receive delivery of a computer system and its associated peripherals and conduct the necessary pre-installation checks.
- 2 Connect a computer system in accordance with specific client requirements and current health and safety regulations.
- 3 Configure a pre-installed operating system in accordance with specific client requirements, including installation of any additionally required drivers/software.
- 4 Install and configure anti-virus and application software in accordance with specific client requirements.

General information (cont)

Unit title: Computing: Installing a Standalone System (SCQF level 5)

Recommended entry

While entry is at the discretion of the centre, it is recommended that candidates have attained one of the following, or equivalent:

- ◆ Computing Studies at SCQF level 4
- ◆ Information Communication Technology (F3GC 10)

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit specification: statement of standards

Unit Computing: Installing a Standalone System (SCQF level 5)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

Outcome 1

Receive delivery of a computer system and its associated peripherals and conduct the necessary pre-installation checks.

Performance Criteria

- (a) Describe the correct packaging and handling requirements required for the safe and effective transportation of computer systems and components.
- (b) Conduct an external inspection of a delivered computer systems packaging and the actual system itself, documenting any flaws which may be present.
- (c) Complete an inventory for a delivered computer system against a supplied delivery invoice.

Outcome 2

Connect a computer system in accordance with specific client requirements and current health and safety regulations.

Performance Criteria

- (a) Prepare a work area prior to installation of a computer system.
- (b) Connect a computer system in a specified configuration, ensuring that the correct cables and interconnections are utilised.
- (c) Ensure that a computer system, its peripherals and the surrounding environment meet health and safety regulations.
- (d) Conduct initial checks to ensure that a computer system starts without issue, verifying that all peripherals are in working order.
- (e) Accurately document any installation issues may arise, identifying any additional resources that may be required to successfully complete an installation.

National Unit specification: statement of standards (cont)

Unit title: Computing: Installing a Standalone System (SCQF level 5)

Outcome 3

Configure a pre-installed operating system in accordance with specific client requirements, including installation of any additionally required drivers/software.

Performance Criteria

- (a) Install any drivers or third party software required to complete the setup of connected peripheral devices.
- (b) Install additional operating system components.
- (c) Configure standalone user account settings.
- (d) Configure user environment settings — desktop layout, display settings, mouse settings, and file structure.
- (e) Accurately document any changes made beyond the default operating system settings.

Outcome 4

Install and configure anti-virus and application software in accordance with specific client requirements.

Performance Criteria

- (a) Install and update anti-virus software.
- (b) Configure scheduled anti-virus system scans.
- (c) Implement a manual anti-virus scan of specific files.
- (d) Install and configure application software.
- (e) Accurately document any additional software installed, along with anti-virus configuration.

National Unit specification: statement of standards (cont)

Unit title: Computing: Installing a Standalone System (SCQF level 5)

Evidence Requirements for this Unit

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

All evidence should be produced in closed-book, supervised controlled conditions. Access to the internet is required. For Outcomes 1, 2 and 3 written and/or oral recorded and performance evidence is required which must include:

For **Outcome 1:**

- ◆ a description of the correct packaging and handling techniques required for the safe and effective transportation of computer systems and components
- ◆ external inspection of a computer system and components for any signs of damage or other flaws
- ◆ a completed inventory of a delivered computer system against the delivery note supplied
- ◆ a computer system which has been carefully and efficiently unpacked, using the correct handling and unpacking techniques for each of the packaged items, and including a record of any flaws if present

For **Outcome 2:**

- ◆ a work area which has been effectively and properly prepared for installation of the delivered computer system
- ◆ an effectively connected and installed computer system, as specified by the client, ensuring all current health and safety regulations are complied with
- ◆ an initial check of the computer system to make sure it will power on and that all connected peripheral devices are functioning correctly (excluding driver/software installation)
- ◆ a check that all of the necessary software/drivers is available for the next stage of the installation
- ◆ accurately documented installation issues, including additional resources, which may be required to complete the installation effectively

For **Outcome 3:**

- ◆ the effective installation of required drivers or third part additional software to ensure that the computer system and its peripheral devices are fully functional
- ◆ the effective installation of two additional operating system components using an operating system installation disk
- ◆ the configuration of two operating system user accounts. This must include an administrator account and one other additional user account
- ◆ the inclusion of at least five changes to the existing operating system configuration to meet client's requirements
- ◆ accurately documented steps which have been followed, noting any problems encountered

National Unit specification: statement of standards (cont)

Unit title: Computing: Installing a Standalone System (SCQF level 5)

For **Outcome 4:**

- ◆ the effective installation of one piece of anti-virus software
- ◆ an effective update of the anti-virus software, including the configuration of a scheduled automated scan, and conducting a manual scan of selected files
- ◆ the correct installation and configuration of two pieces of additional application software
- ◆ accurately document the steps carried out, including any additional software installed and noting any problems encountered

National Unit specification: support notes

Unit Computing: Installing a Standalone System (SCQF level 5)

This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit aligns to the following National Occupational Standards (NOS) from eskillsUK: IT User – Using IT Systems – SIS: Setup an IT System.

The required content of the Unit may change as computing technology develops over time and new devices are introduced. The following guidance exemplifies the standards in terms of contemporary technology.

The overall aim of this Unit is to enable candidates to install a standalone computer workstation in response to a client request, while adhering to current health and safety regulations. This Unit will provide candidates with the opportunity to work in a manner close to what they might experience in the workplace as an IT Technician. As well as dealing with the physical installation and configuration of a computer workstation, candidates should also gain the ability to competently complete the associated documentation that accompanies this type of task.

This Unit should ideally be delivered over an extended period of time to give candidates the opportunity to install and configure a varied range of computer hardware and software.

Outcome 1

This Outcome aims to convey the importance of completing a series of checks to ensure that the delivered items arrive in an appropriate condition, and where this is not the case any problems are identified as early as possible.

Candidates should be given the opportunity to handle common packaging associated with the delivery of electronic equipment, including antistatic bags, padding and security seals. They should also be shown examples of damaged or inadequate packaging, and be able to identify the types of problems that may arise as a consequence of these inadequacies.

Candidates should gain experience unpacking sensitive equipment/components, and be aware of the appropriate measures required to handle them without causing damage. Where possible Candidates should be able to work with realistic pro forma, which allows them to document the initial unpacking process and identify problems.

Outcome 2

This Outcome aims to simulate the typical tasks carried out by an IT Technician when installing a new computer workstation for a specific user. It is important that when completing these tasks candidates adhere to current health and safety regulations, both for the end-user, and themselves.

National Unit specification: support notes (cont)

Unit Computing: Installing a Standalone System (SCQF level 5)

Candidates should gain experience working in a variety of environments where possible, and be able to correctly identify and rectify any problems in and around the work area. Candidates should also gain experience working with a range of appropriate peripherals, and the associated interconnections required for these devices to function correctly and safely.

It is important that all computer systems installed by candidates are evaluated in terms of health and safety, to ensure that the user and any other persons in the surrounding area are not at risk. All peripheral devices, including typical office furniture should be positioned in a manner that is conducive to reducing risk of injury (eyestrain, RSI, back pain, trip hazards, etc.) and leading to effective operation.

Where possible Candidates should be able to work with realistic pro forma, which allows them to document the physical installation and identify any problems/issues which may have arisen.

Outcome 3

This Outcome relates to the configuration only, and not the installation of an operating system.

Candidates should be given the opportunity to install and remove operating system components/drivers and updates, using the original software media where possible. There should be an opportunity for candidates to create multiple local user accounts, each with their own custom user settings and privileges. Candidates should also be able to configure environmental settings to cater for a specific type of user (foreign language, visually impaired, physically impaired, etc.).

Candidates should gain experience using realistic pro forma to document account and configuration information, identifying all account settings (privileges, passwords, etc.) and configuration settings beyond that of the initial default configuration.

Outcome 4

This Outcome relates to the installation and configuration of anti-virus and configuration software to meet a specific clients needs.

Candidates should have the opportunity to install anti-virus and application software in a "custom" fashion, where they are expected to select a specific installation location, install only certain components of the software, and where possible apply manual updates.

Where appropriate, candidates should be shown how to obtain additional data files from either supplied software media, or from online sources.

Once installed, candidates are expected to be given the opportunity to work with the available application options provided to the user to tailor the application to a given remit. This should include scheduling routine anti-virus scans, configuring manual scans, and tailoring common office applications for a particular user.

National Unit specification: support notes (cont)

Unit Computing: Installing a Standalone System (SCQF level 5)

Candidates should gain experience using realistic pro forma to document any installation and configuration information, such as licence types, product keys, patches/updates, and minimum/recommended system requirements.

Guidance on learning and teaching approaches for this Unit

A practical hands-on approach to learning should be adopted to engage learners and exemplify key concepts. However, all practical activities should be underpinned with appropriate knowledge before candidates commence these activities.

An important Outcome for this Unit is that candidates develop the ability to manage the installation of a computer workstation from start to finish, and they are able to do this independently through uses of a logical and effective workflow. It is also important that an emphasis is placed on the correct and thorough documentation of their work, so that other members of 'staff' in the workplace may interact effectively and efficiently with them. Where possible, scenarios used should mimic tasks that may be expected if undertaking these procedures while working in outside industry.

This Unit may be delivered standalone or in conjunction with others. There is an opportunity to contextualise this Unit in terms of others delivered alongside it, since this Unit's contents are generic and lend themselves to contextualisation.

Guidance on approaches to assessment for this Unit

An integrative approach can be taken with the four Outcomes being assessed through two instruments of assessment.

The first assessment instrument could cover the knowledge and understanding requirements for Outcomes 1, 2, 3 and 4 and ideally be completed after candidates are assessed on the practical aspects of the Unit. This assessment instrument should consist of a suitable range of content that covers all Outcomes. Four extended-response questions could be set which cover the following areas:

- ◆ correct packaging and handling requirements needed for the transportation of computer systems and components
- ◆ health and safety regulations involved in setting up a computer workstation
- ◆ tailoring the operating system user environment
- ◆ configuring anti-virus software

The second assessment instrument for Outcomes 1, 2, 3 and 4 could be a practical assessment taking the form of scenario-based project, consisting of observation of the candidate over an extended period of time during which the candidate is required to maintain a log of their work. It is recommended that the project flows in a linear fashion, with the completion of each task logically flowing into the next. The assessor should ensure the candidate has successfully completed each stage of the project before moving on to the next. Where the candidate fails to meet the necessary health and safety standards the task should be halted, and remedial work completed before they are allowed to progress.

National Unit specification: support notes (cont)

Unit Computing: Installing a Standalone System (SCQF level 5)

It is recommended that this assessment is started as soon as the candidate has acquired the necessary knowledge and skills to permit them to commence appropriate tasks. This candidate log could either be paper based or stored in a digital repository (such as an e-portfolio or weblog). The log should be completed by the candidate to show that they have undertaken all the tasks.

An observation checklist can be used to record that all the tasks have been undertaken correctly.

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

Opportunities for developing Core Skills

In this Unit candidates will develop the skills to install a standalone computer systems in response to a client request, while adhering to current health and safety regulations. Candidates will:

- ◆ complete a series of checks to ensure that delivered items arrive in an appropriate condition
- ◆ install a new computer system for a specific user ensuring current health and safety requirements are complied with
- ◆ identify and rectify any problems in and around the work area
- ◆ work with a range of appropriate peripherals and the associated interconnections required for these devices to function correctly and safely
- ◆ create multiple user accounts, each with their own custom user setting and privileges
- ◆ install and configure anti-virus and configuration software to meet a specific client's needs

As candidates are doing this Unit they will be developing aspects of the Core Skills of *Problem Solving* and *Information and Communication Technology*.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date

© Scottish Qualifications Authority 2011

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Business Development and Customer Support team, telephone 0303 333 0330.