



National Unit specification: general information

Unit title: Computer Aided Drafting: Landbased Industries

Unit code: H1JX 12

Superclass: CH

Publication date: May 2012

Source: Scottish Qualifications Authority

Version: 01

Summary

This Unit has been designed to develop an understanding of the basic skills involved in Computer Aided Drafting, for the use in the land based industry. The Unit allows the use of computers to apply information gained and produce technical working drawings.

Outcomes

- 1 Evaluate the uses, benefits and limitations of different types of CAD packages for particular situations.
- 2 Use a CAD package to set up and produce a range of geometric shapes.
- 3 Produce a range of simple drawings.

Recommended entry

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following, or equivalent:

Numeracy and Communications at level 3 or above/appropriate qualification at SCQF level 4.

Credit points and level

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

**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.*

General information (cont)

Unit title: Computer Aided Drafting: Landbased Industries

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 title: Computer Aided Drafting: Landbased Industries

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 SQA.

Outcome 1

Evaluate the uses, benefits and limitations of different types of CAD packages for particular situations.

Performance Criteria

- (a) List the CAD software packages available within the land based industries.
- (b) Describe two such packages detailing their advantages and disadvantages.

Outcome 2

Use a CAD package to set up and produce a range of geometric shapes.

Performance Criteria

- (a) Use the software menu and commands to set up and produce CAD drawings.
- (b) Set up a drawing space.
- (c) Set up and create customised toolbars.
- (d) Using your customised tool bar produce a range of geometric shapes associated with the land based industry.

Outcome 3

Produce a range of simple drawings.

Performance Criteria

- (a) Using land based drawing exemplars, reproduce the plan drawing using CAD commands.
- (b) Using land based drawing exemplars; reproduce the section through a component or structure using CAD commands.
- (c) Produce a hard copy of your fully dimensioned and annotated drawings.

National Unit specification: statement of standards (cont)

Unit title: Computer Aided Drafting: Landbased Industries

Evidence Requirements for this Unit

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

Outcome 1

Candidates are required to produce written and/or recorded oral evidence demonstrating their knowledge of the CAD packages available to the land based sector. This could be in the form of a list and report, where the candidate will compare two such packages from their chosen list, detailing their advantages and disadvantages.

Outcome 2

For this Outcome the candidate must be able to create geometric shapes from a chosen CAD package. The setting up and use of customised tool bars must be carried out, to produce the geometric shapes below. A print screen copy should be produced of the customised tool bars. A hard copy of the geometric shapes must also be produced.

- ◆ Rectangle
- ◆ Circle
- ◆ Hexagon
- ◆ Ellipse
- ◆ Triangle

Outcome 3

The candidate is required to reproduce from exemplar drawings, a plan and section of a land based layout, component or structure. The candidate will be assessed for:

- ◆ Neatness
- ◆ Clarity
- ◆ Layout
- ◆ Detail appropriateness
- ◆ Presentation

National Unit specification: support notes

Unit title: Computer Aided Drafting: Landbased Industries

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 was designed to provide candidates, following a programme of Landbased Units, with an understanding of the principles of basic computer aided drafting (CAD). The candidates will develop skill and knowledge to both gather information and present it in a graphical format.

Guidance on learning and teaching approaches for this Unit

The candidates should be allowed to develop their graphical, computer skills to produce detailed drawings which could be used within the land based industry. Candidates should be encouraged to develop new skills, techniques and use the equipment provided.

The integration of elements from other Units would be an advantage to allow candidates to gain a wider knowledge perspective of CAD techniques.

Candidates must be made fully aware of all health and safety requirements at all times within the course of study.

Guidance on approaches to assessment for this Unit

Assessment for this Unit may take the form of an assessment for each Performance Criteria or in the form of integrated assessment either in the form of integrated tasks or it may be integrated with other Units. However if integration is to take place care must be given to ensuring that all the criteria has been covered and referenced. There may be opportunities to integrate the delivery and assessment of this Unit with Unit *Setting Out Landscape Areas*.

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 social software. 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)*.

National Unit specification: support notes (cont)

Unit title: Computer Aided Drafting: Landbased Industries

Opportunities for developing Core Skills

There is no automatic certification of Core Skills or Core Skills components in this Unit, however there may be opportunities to develop the Core Skills of *Numeracy* at SCQF Level 5, eg using scales, *Communication* at SCQF Level 5, eg report writing and *Information and Communication Technology (ICT)* at SCQF Level 5, eg use of computers to set up and use software packages.

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 2012

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.