

National Unit Specification: general information

UNIT	Technical Graphics 1 (Intermediate 1)
CODE	D171 10
COURSE	Graphic Communication (Intermediate 1)

SUMMARY

This Unit is a mandatory Unit of the *Intermediate 1 Graphic Communication Course*, but can also be taken as a free-standing Unit. The focus of the Unit is practical, introducing candidates to basic graphic skills which will be beneficial to them as they progress through any Course or vocation where knowledge of graphic communication terminology and practical skills is required.

This Unit offers opportunities to gain experience in pictorial projection methods, manual illustration, orthographic drawings and geometric constructions. The Unit is suitable for those candidates wishing to build on previous experience of graphic communication or those candidates who have no previous qualifications or experience and wish to gain an introductory qualification as part of a general education or as a first step to more specialised study.

OUTCOMES

- 1 Draw isometric, exploded isometric and planometric views.
- 2 Construct and draw views of solid, hollow, uncut and single cut, right cylinders, prisms, and pyramids in third angle orthographic projection.
- 3 Produce rendered pictorial sketches of simple everyday objects.
- 4 Demonstrate knowledge and understanding of the use of basic colour theory in graphics.

RECOMMENDED ENTRY

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

- ◆ Standard Grade Graphic Communication at Foundation level

Administrative Information

Superclass:	JC
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National Unit Specification: general information (cont)

UNIT Technical Graphics 1 (Intermediate 1)

CREDIT VALUE

1 credit at Intermediate 1 (6 SCQF credit points at SCQF level 4*)

*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

Achievement of this Unit gives automatic certification of the following:

Complete Core Skill	None
Core Skill component	Using Graphical Information at SCQF Level 4

National Unit Specification: statement of standards

UNIT Technical Graphics 1 (Intermediate 1)

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

Draw isometric, exploded isometric and planometric views.

Performance Criteria

- (a) Isometric drawings produced are neat and accurate in terms of overall size.
- (b) Planometric drawings are neat and accurate in terms of overall size.
- (c) Exploded isometric views are sufficiently separated to clearly define the two component parts and their relative positions.

OUTCOME 2

Construct and draw views of solid, hollow, uncut and single cut, right cylinders, prisms, and pyramids in third angle orthographic projection.

Performance Criteria

- (a) Related views produced represent clearly the geometric form and are accurate in terms of overall size and position.
- (b) Geometric constructions are accurate and appropriate to the view being produced.
- (c) Surface developments are accurate in terms of overall size and correct application of fold lines to British Standards.

OUTCOME 3

Produce rendered pictorial sketches of simple everyday objects.

Performance Criteria

- (a) Pictorial sketching is in good proportion and clearly represents the object.
- (b) Rendering is effective in enhancing the item to show light, shade, tone and colour.

OUTCOME 4

Demonstrate knowledge and understanding of the use of basic colour theory in graphics.

Performance Criteria

- (a) Primary, secondary and tertiary colours are correctly identified.
- (b) The use of colours in relation to effect is correctly identified.
- (c) The procedure for creating a tint or shade is correctly identified.

National Unit Specification: statement of standards (cont)

UNIT Technical Graphics 1 (Intermediate 1)

EVIDENCE REQUIREMENTS FOR THIS UNIT

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

For Outcomes 1, 2, and 3, graphical evidence is required in the form of a folio of work containing evidence that the candidate can produce:

- ◆ an isometric drawing of a simple straight-edged everyday object
- ◆ a planometric drawing of an architecturally related layout incorporating a single straight-edged object
- ◆ an isometric drawing showing exploded parts
- ◆ an orthographic drawing showing the surface development of a right prism
- ◆ an orthographic drawing showing the surface development of a right pyramid
- ◆ an orthographic drawing showing the surface development of a right cylinder
- ◆ pictorial sketches of simple straight edged every day objects that have been enhanced to represent light, shade, tone and the use of colour

The orthographic drawings detailed above should include one example of each of the following:

- ◆ an uncut geometric form
- ◆ a hollow geometric form with a single cut
- ◆ a solid geometric form with a single cut

The evidence for the folio must be produced under supervised conditions to ensure that it is the candidate's own work. Work produced by following a directed approach, such as a step-by-step guide is not valid for assessment purposes.

For Outcome 4, written and/or recorded oral evidence is required which demonstrates that the candidate has achieved the Outcome to the standard specified in the Outcome and Performance Criteria and covering the mandatory content specified in the Appendix. The assessment for this Outcome should be carried out under controlled, closed-book, supervised conditions and should last no more than 15 minutes.

The standard to be applied and the breadth of coverage are illustrated in the National Assessment Bank items available for this Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

UNIT Technical Graphics 1 (Intermediate 1)

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 may be taken as a free-standing Unit or as part of the Intermediate 1 Graphic Communication Course. It is particularly suitable for candidates seeking to expand their sketching, illustration and drawing techniques.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

To encourage motivation, it is recommended that the objects drawn are everyday items that are relevant to the candidates. Suitable objects may be wooden toys, personal CD players, mp3 players, cameras, mobile phones etc. The Unit could be structured around a series of tasks, some of which may integrate content across Units, for example isometric views of an everyday item produced in *Technical Graphics 1 (Intermediate 1)* and orthographic views of an everyday object produced in *Technical Graphics 2 (Intermediate 2)*. This would allow candidates to appreciate the use of different formats for different purposes. Another area for integration could be the correct use of British Standards conventions on line types, dimensioning and symbols across all three Units of the *Intermediate 1 Graphic Communication Course*.

The tasks should take candidates from an introductory level up to the Unit standard of performance and cover the content listed in the Appendix to this Unit.

Practice in sketching and detailed drawing will introduce the candidates to a practical need for good graphic skills. Opportunities should be provided to relate the work to the interests of candidates, through the choice of drawing examples. Throughout the Unit, illustration techniques and colour theory should be integrated to allow candidates to appreciate the use of such techniques to enhance and clarify their work.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Appropriate instruments of assessment that could be used to generate and gather evidence of achievement are as follows:

- ◆ Outcomes 1–3: A folio of work, based on practical exercises, which each candidate has compiled working independently under supervised conditions which satisfy the Evidence Requirements for the Unit.
- ◆ Outcome 4: A short, closed-book, restricted response test, lasting no more than 15 minutes to assess the candidate's knowledge of basic colour theory. The test should cover all three Performance Criteria and the content listed for Outcome 4 in the Appendix.

The work must be the candidate's own. Work produced by following a directed approach, such as a step-by-step guide is not valid for assessment purposes.

National Unit Specification: support notes (cont)

UNIT Technical Graphics 1 (Intermediate 1)

CANDIDATES WITH DISABILITIES AND/OR ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

National Unit Specification: support notes (cont)

UNIT Technical Graphics 1 (Intermediate 1)

APPENDIX

This appendix provides a list of the mandatory content for the Unit. All of the mandatory content will be subject to sampling in the Unit assessment.

OUTCOME 1

The following is the mandatory content for Outcome 1:

- ◆ Isometric views of simple, straight-edged, everyday objects, working from orthographic details of the objects.
- ◆ Exploded isometric views consisting of only two component parts, working from orthographic details of the components.
- ◆ Simple planometric views of architectural related layouts incorporating a single straight-edged object,

OUTCOME 2

The following is the mandatory content for Outcome 2:

- ◆ Drawings of geometric forms (solid, hollow, uncut and single cut) in third angle projection limited to elevations, end elevations, plans and surface developments of right cylinders, square and equilateral triangular prisms and pyramids.

OUTCOME 3

The following is the mandatory content for Outcome 3:

- ◆ Pictorial sketches of simple everyday items. Any of the following pictorial projections can be used, eg isometric, oblique, planometric, one and two point perspective.
- ◆ Manual illustration to include the use of colour, light, shade and tone in rendering, eg pencil, colour pencil, marker pen, pastels.

OUTCOME 4

The following is the mandatory content for Outcome 4:

- ◆ Understand the colour wheel.
- ◆ Recognise the use of colour in relation to effect, ie harmonising/contrasting, advancing/receding and warm/cold.
- ◆ Tint and shade.