



National Unit Specification: general information

UNIT Technical Graphics 1 (Intermediate 2)

CODE F397 11

SUMMARY

This Unit is a mandatory Unit of the Intermediate 2 Graphic Communication Course, but can also be taken as a free-standing Unit. The focus of the Unit is practical, developing 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 a qualification as part of a general education or as a first step to more specialised study.

OUTCOMES

- 1 Draw isometric and oblique views of everyday items and assemblies, and planometric views of room interiors.
- 2 Construct and draw views of solid, hollow, uncut and cut right prisms, pyramids, cylinders and cones in orthographic projection.
- 3 Sketch perspective views of everyday objects and apply freehand illustration techniques.
- 4 Demonstrate knowledge and understanding of the use of colour theory in graphics.

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:

- ◆ Intermediate 1 Graphic Communication
- ◆ Standard Grade Graphic Communication at General level

Administrative Information

Superclass: JC

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CREDIT VALUE

1 credit at Intermediate 2 (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

Achievement of this Unit gives automatic certification of the following:

Complete Core Skill	None
Core Skill component(s)	Using Graphical Information at SCQF level 4

National Unit Specification: statement of standards

UNIT Technical Graphics 1 (Intermediate 2)

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 and oblique views of everyday items and assemblies, and planometric views of room interiors.

Performance Criteria

- (a) Isometric drawings are neat and accurate.
- (b) Planometric drawings are neat and represent the subject matter.
- (c) Oblique drawings are neat and accurate.
- (d) Exploded pictorial views are sufficiently detailed to define clearly the component parts and their relative positions.

OUTCOME 2

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

Performance Criteria

- (a) Related views produced represent clearly the geometric form and are accurate in terms of scale, overall size and position.
- (b) Geometric constructions are accurate and appropriate.
- (c) True shapes and surface developments are accurate in terms of scale and overall size.

National Unit Specification: statement of standards (cont)

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OUTCOME 3

Sketch perspective views of everyday objects and apply freehand illustration techniques.

Performance Criteria

- (a) Perspective sketches are in good proportion and sufficiently detailed to represent the object clearly.
- (b) The freehand illustration techniques applied are appropriate.
- (c) Rendering and use of colour is effective in enhancing sketches to represent various materials.

OUTCOME 4

Demonstrate knowledge and understanding of the use of 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 use of colours in relation to mood and function is correctly identified.
- (d) The procedure for creating a tint or shade is correctly identified.

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 an everyday object containing a curved surface
- ◆ a planometric drawing of a room interior incorporating two or more objects
- ◆ an oblique drawing of a everyday object containing a curved surface
- ◆ an isometric drawing showing three exploded parts
- ◆ an isometric or an oblique drawing showing three assembled components
- ◆ an orthographic drawing showing the surface development of a rectangular or triangular right prism
- ◆ an orthographic drawing showing the surface development of a rectangular or triangular right pyramid
- ◆ an orthographic drawing showing the surface development of a right cylinder
- ◆ an orthographic drawing showing the surface development of a hexagonal or octagonal right prism
- ◆ an orthographic drawing showing the surface development of a hexagonal or octagonal right pyramid
- ◆ an orthographic drawing showing the surface development of a right cone
- ◆ pictorial sketches of everyday objects that have been enhanced to represent light, shade, tone and the use of colour

National Unit Specification: statement of standards (cont)

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

- ◆ an uncut geometric form
- ◆ a hollow geometric form with more than one cut
- ◆ a solid geometric form with more than one cut
- ◆ a true shape of a cut surface

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 2)

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 2 Graphic Communication Course.

It is particularly suitable for candidates seeking to expand their sketching, illustration and drawing techniques.

The mandatory content for this Unit can be found in the Appendix.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

This Unit could be taught as a free-standing Unit or concurrently with any of the other Units that make up the Intermediate 2 Graphic Communication Course.

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 F397 11 Technical Graphics 1 (Intermediate 2) and orthographic views of an everyday object produced in F398 11 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 current British Standards on line types, dimensioning and symbols across all three Units of the Intermediate 2 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.

National Unit Specification: support notes (cont)

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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: Practical exercises, to be included in a folio of work, 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 colour theory. The test should cover all four 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.

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.

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: statement of standards (cont) — Appendix

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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 and oblique views of everyday items which contain curved surfaces
- ◆ isometric and oblique views of an assembly of two or three main components, working from orthographic details of the components
- ◆ exploded isometric views, consisting of three component parts, of everyday items working from orthographic details of the assembly
- ◆ planometric views of room interiors containing two or more objects

OUTCOME 2

The following is the mandatory content for Outcome 2:

- ◆ drawings of geometric forms in third angle projection:
 - views: elevations, end elevations, plans, true shapes and surface developments
 - geometric forms: square, rectangular, triangular, hexagonal and octagonal right prisms and pyramids, cylinders and cones

OUTCOME 3

The following is the mandatory content for Outcome 3:

- ◆ 1-point and 2-point perspective sketches of everyday items
- ◆ manual illustration to include the use of colour, light, shade and tone in rendering

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
- ◆ recognise the use of colour in relation to mood and function
- ◆ procedures for creating a tint and a shade