

## Higher National Unit Specification

### General information for centres

**Unit title:** Illustrative Diagram: Parallel Projection

**Unit code:** DV65 34

**Unit purpose:** This project based Unit is designed to provide candidates with the knowledge and skills necessary to create illustrative diagrams in an industrial context. The Unit is aimed at those wishing to develop skills in the area of creating illustrative diagrams using 2D and 3D parallel projection.

On completion of this Unit, the candidate should be able to:

- 1 Apply parallel projection to create a 2D illustrative diagram.
- 2 Apply parallel projection to create a 3D illustrative diagram.
- 3 Create a solution to an illustrative diagram project using 2D and 3D parallel projection methods.

**Credit points and level:** 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7\*).

*\*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.*

**Recommended prior knowledge and skills:** Access to this Unit is at the discretion of the centre. It may be beneficial if the candidate had some prior knowledge of technical draughting. This may be evidenced by the possession of relevant National Units, Higher Graphic Communication or prior vocational experience.

**Core Skills:** There are opportunities to develop the Core Skills of Numeracy and Problem Solving at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components. Further detail is provided in the support notes.

**Context for delivery:** This Unit was developed for the HNC/HND Visual Communication award. If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

The Unit may be linked/integrated with the following Units in the HNC/HND Visual Communication award: *Drawing Systems* and *Design of Charts and Diagrams*.

## **General information for centres (cont)**

**Assessment:** Outcomes 1 and 2 should be practical.

Outcomes 1 and 2 should be assessed as two separate graphics assignments.

In the first assignment candidates should create an illustrative diagram using orthographic projection. In the second assignment candidates should create an illustrative diagram using either an axonometric projection or an oblique projection. Both assignments should fulfill the requirements of an appropriate brief.

Outcome 3 could be assessed individually but it is recommended that it is integrated with the assessments for Outcomes 1 and 2.

It should be noted that candidates must achieve all the minimum evidence specified for each Outcome in order to pass the Unit.

It is essential that the centres ensure that evidence generated is the candidate's own work.

These assessments should be conducted under open-book conditions.

## **Higher National Unit specification: statement of standards**

**Unit title:** Illustrative Diagram: Parallel Projection

**Unit code:** DV65 34

The sections of the Unit stating the Outcomes, knowledge and/or skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

### **Outcome 1**

Apply parallel projection to create a 2D illustrative diagram

#### **Knowledge and/or skills**

- ◆ 2D parallel projection method
- ◆ Diagram development
- ◆ View selection
- ◆ Construction accuracy
- ◆ Scale selection and format
- ◆ Appropriate medium/media

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can in response to a given brief:

- ◆ create an appropriately constructed 2D parallel projection.
- ◆ select an appropriate view
- ◆ control scale in terms of subject and format
- ◆ accurately represent subject in 2D parallel projection
- ◆ select appropriate medium/media
- ◆ use medium/media appropriately in terms of scale, form, colour and surface quality
- ◆ create an accurate illustrative diagram
- ◆ create an illustrative diagram that is readily understood

Evidence must be generated through practical assignments undertaken under open-book conditions. Candidates should be allowed to refer to relevant course material.

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Illustrative Diagram: Parallel Projection

### Assessment guidelines

The assessment for this Outcome should take the form of a practical project in response to a given brief. This assessment may be carried out as a single Outcome or in conjunction with Outcome 3. This is at the discretion of the presenting center and will be determined primarily by the project brief. The project brief should be devised by the tutor delivering the Unit. It is recommended that the centres develop checklists to support the assessment requirements for each of the knowledge and/or skills items.

### Outcome 2

Apply parallel projection to create a 3D illustrative diagram

#### Knowledge and/or skills

- ◆ 3D parallel projection methods
- ◆ Diagram development
- ◆ View selection
- ◆ Construction accuracy
- ◆ Scale selection and format
- ◆ Appropriate medium/media

#### Evidence Requirements

Candidates will need to provide product evidence to demonstrate their knowledge and/or skills by showing that they can in response to a given brief:

- ◆ create an appropriately constructed 3D parallel projection
- ◆ select an appropriate view
- ◆ control scale in terms of subject and format
- ◆ accurately represent subject in 3D parallel projection
- ◆ select appropriate medium/media
- ◆ use medium/media appropriately in terms of scale, form, colour and surface quality
- ◆ create an accurate illustrative diagram that is readily understood

Evidence must be generated through a practical assignment undertaken under open-book conditions. Candidates should be allowed to refer to relevant course material.

### Assessment guidelines

The assessment for this Outcome should take the form of a practical project. This assessment may be carried out as a single Outcome or in conjunction with Outcome 3. This is at the discretion of the presenting centre and will be determined primarily by the project brief. The project brief should be devised by the tutor delivering the Unit. It is recommended that centres develop checklists to support the assessment requirements for each of the knowledge and/or skills items.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Illustrative Diagram: Parallel Projection

### **Outcome 3**

Create a solution to an illustrative diagram project using 2D and 3D parallel projection methods

#### **Knowledge and/or skills**

- ◆ Research assimilation
- ◆ Produce a work plan
- ◆ Analytical sketch visuals
- ◆ Imagery for a synthesized solution to a brief

#### **Evidence Requirements**

Candidates will need to provide product evidence to demonstrate their knowledge and/or skills by showing that they can in response to a given brief:

- ◆ assimilate subject matter information which is appropriate to the brief content
- ◆ produce a work plan which is appropriate with respect to timescale, resources and processes involved
- ◆ create analytical visuals which are appropriate to the brief content
- ◆ create a synthesized visual solution which is appropriate with respect to the coherent
- ◆ integrate graphic elements and produce a visual explanation of the brief

Evidence must be generated through assessment undertaken under open-book conditions. Candidates should be allowed to refer to relevant course material.

#### **Assessment guidelines**

The assessment for this Outcome should take the form of a practical project to a given brief. The assessment may be carried out at various points of the Unit presentation, as relates to the development of a work plan and the various stages of the design process. This is at the discretion of the presenting centre and will be determined primarily by the project brief. The project brief should be devised by the tutor delivering the Unit. It is recommended that centres develop checklists to support the assessment requirements for each of the knowledge and/or skills items.

## **Administrative Information**

<b>Unit code:</b>	DV65 34
<b>Unit title:</b>	Illustrative Diagram: Parallel Projection
<b>Superclass category:</b>	VF
<b>Date of publication:</b>	August 2006
<b>Version:</b>	01
<b>Source:</b>	SQA

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## **Higher National Unit specification: support notes**

### **Unit title:** Illustrative Diagram: Parallel Projection

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 has been written in order to allow candidates to develop knowledge, understanding and skills in the following areas:

- ◆ apply 2D and 3D parallel projection to create illustrative diagrams
- ◆ create solutions to illustrative diagram projects using parallel projection methods in an industrial context

This Unit is at SCQF level 7 and has been developed as part of the HNC/HND Visual Communication. However this does not preclude the use of the Unit in other awards where the Qualification Design Team feel this to be appropriate.

### **Guidance on the delivery and assessment of this Unit**

This Unit is mostly practical in nature and should be delivered with that in mind.

The reference material used in creating the imagery should reflect the time allocation unless part of an integrated presentation.

The imagery could be created using traditional media and drawing boards or be computer generated or a mixture of both where appropriate.

Care should be taken to stress the use of British Standards, as conflicting information can be found in various text books and websites.

All assessment should be conducted in conditions where arrangements have been put in place to ensure the authenticity of the candidate's work.

### ***Opportunities for developing Core Skills***

Candidates will analyse requirements and seek solutions involving a range of practical issues as they apply theoretical knowledge and understanding to create a solution to a complex design project and work towards specific objectives in illustrative diagram development. Identifying and considering all variables, including scale and media, and analysing the relative significance of each before identifying and selecting a design approach, will provide opportunities to develop elements of planning, critical thinking and general problem solving skills to an advanced level. Accurate calculation and the ability to measure, construct and manipulate complex graphic information underpins the competencies developed in the Unit. The development of initial designs will involve on-going evaluation and modification. Candidates will need to produce and present materials to a standard which would be acceptable in industry.

## Higher National Unit specification: support notes (cont)

### Unit title: Illustrative Diagram: Parallel Projection

Analysing and evaluating the potential impact of the practical design solution selected will be critical, and candidates are likely to benefit from the availability of current examples of materials as models for evaluation of effectiveness.

### Open learning

This Unit could be delivered by open learning. However it would require planning by the centre to ensure sufficiency and authenticity of candidate evidence.

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance. For further information and advice please refer to the SQA document Assessment and Quality Assurance for Open and Distance Learning (A1030) which is available on SQA's website [www.sqa.org.uk](http://www.sqa.org.uk).

### Candidates with additional support needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. 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. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: [www.sqa.org.uk](http://www.sqa.org.uk).



## **General information for candidates**

### **Unit title:** Illustrative Diagram: Parallel Projection

On completion of this Unit, you should be able to:

- ◆ apply parallel projection to create an illustrative diagram
- ◆ create a solution to an illustrative diagram project using parallel projection method in an industrial context

The Unit has been designed to provide you with the knowledge and skills that will enable you to create illustrative diagrams using parallel projection methods as identified within British Standards. The formal assessment for this Unit is practical.

The creation of a work plan is required at the beginning of an assignment, in order to plan for the development of the images as you go through the design process.

You will be required to create an illustrative diagram using 2D parallel projection and also an illustrative diagram using 3D parallel projection.

All projection methods will be as outlined within current British Standards.

A brief for each assignment will be submitted to you by your tutor.