

SQA Advanced Unit Specification

General information for centres

Unit title: Architectural Design Sketching and Drawing

Unit code: HR3P 47

Unit purpose: This Unit is designed to enable the candidate to develop a knowledge and understanding of basic architectural design concepts and elements. In addition, the candidate will develop competence in graphical communication techniques in the field of architectural drawing and sketching.

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

- 1 Illustrate basic architectural concepts.
- 2 Explain and illustrate the relationship of architectural form, function and mass.
- 3 Interpret construction drawings.

Credit points and level: 1 SQA 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 National 1 to Doctorates.*

Recommended prior knowledge and skills: It would be an advantage for candidates to have a basic knowledge and understanding of the principles of freehand sketching and drawing as well as basic knowledge and understanding of construction technology (structure). This may be evidenced by possession of appropriate Higher or SQA Advanced Units.

Core Skills: There are opportunities to develop the Core Skills of Communication, and Problem Solving, in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: 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.

Assessment: It is possible to assess candidates either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. It should be noted that candidates must achieve all the minimum evidence specified for each Outcome in order to pass this Unit.

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This Unit could be assessed holistically by the production of a portfolio of evidence generated by the candidate during designated tutorial time within the centre or in private study time outwith the confines of the centre. Much of the evidence could arise from tasks set by the tutor to elicit appropriate graphical responses that meet the Evidence Requirements demanded by the Outcomes. Some written text will be required to satisfy the descriptive elements of Outcomes 2 and 3.

It is incumbent on the tutors within the centre to satisfy themselves that the portfolio of evidence submitted for assessment is entirely original and solely the respective student's work.

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.

An exemplar instrument of assessment and marking guidelines have been produced to provide an example of the type of evidence required to demonstrate achievement of the aims of this Unit and to indicate the national standard of achievement at SCQF level 7.

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SQA Advanced Unit specification: statement of standards

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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.

Throughout the Unit emphasis will be placed, where appropriate, on the application of Health and Safety and Sustainability. Safe working practises should be looked at in accordance with current safety codes of practise and regulations. Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

Outcome 1

Illustrate basic architectural concepts

Knowledge and/or skills

- ◆ preparation of freehand and/ or instrument-aided sketches
- ◆ recognition of basic architectural concepts

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ identify and illustrate basic architectural concepts

In any assessment of this Outcome **all** knowledge and/or skills items should be included. Candidates must provide a satisfactory response to **all** items.

Evidence for the knowledge and skills in this Outcome will be provided by the production of a portfolio of freehand and/or instrument-aided sketches. Graphical evidence is required to demonstrate that the candidate understands architectural design concepts and the basic elements of architectural sketching and drawing.

The candidates may select appropriate buildings as subjects for illustration or choose from a selection of buildings nominated by the tutor.

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Assessment guidelines

It is anticipated that much of the production of evidence for this Outcome should take place in the candidate's designated tutorial time or in their own private study time. It is incumbent on the assessors to satisfy themselves that the evidence produced is, in fact, the work of the individual candidate. A minimum of **four** A4 sketches should be produced to satisfy both the sketching and the concept illustration requirements.

The sketching elements of Outcome 2 may be integrated with requirements of Outcome 1.

Outcome 2

Explain and illustrate the architectural relationships of Form, Function and Mass

Knowledge and/or skills

- ◆ understanding of the terms: Form, Function and Mass
- ◆ preparation of freehand and/ or instrument-aided sketches
- ◆ illustration of concepts of Form, Function and Mass

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/ or skills by showing that they can:

- ◆ explain and illustrate the terms Form, Function and Mass and their inter-relationship

In any assessment of this Outcome **all** knowledge and/ or skills items should be included. Candidates must provide a satisfactory response to **all** items.

Written and graphical evidence is required to confirm the candidates understanding of the terms Form, Function and Mass and their inter-relationship with reference to architecture. Graphical evidence for Outcome 2 should be freehand and/or instrument-aided sketches of **three** buildings in a medium selected by the candidate. The candidates may select appropriate buildings for themselves as subjects or choose from a selection of buildings supplied by the tutor.

Assessment guidelines

It is anticipated that much of the production of graphical evidence for this Outcome should take place in the candidate's designated tutorial time or in their own private study time. It is incumbent on the assessors to satisfy themselves that the evidence produced is, in fact, the work of the individual candidate. A minimum of **three** A4 sketches should be produced to satisfy both the sketching and the concept illustration requirements.

The sketching elements of Outcome 2 may be integrated with requirements of Outcome 1.

In addition to the graphical evidence, each candidate will need to demonstrate that he/she can explain the relationships of Form, Function and Mass. This could be evidenced by the production of a written evaluation of one of the buildings selected as a subject for the graphical part of this Outcome. Alternatively, each candidate could demonstrate that he/she can answer correctly, a series of questions based on one of the buildings selected as a subject for the graphical part of this Outcome.

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Outcome 3

Interpret construction drawings

Knowledge and/or skills

- ◆ understanding of the purposes of drawings
- ◆ importance of drawing standards and conventions
- ◆ recognition of drawing types and conventions

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ explain the purposes of drawings and the use of drawings standards and conventions
- ◆ recognise drawings types and conventions

In any assessment of this Outcome **all** knowledge and/ or skills items should be included. Candidates must provide a satisfactory response to **all** items.

The evidence may be presented in response to specific questions. Each candidate will need to demonstrate that he/she can answer correctly questions based on the content of this Outcome. Candidates must provide a satisfactory response to **all** items.

Assessment guidelines

The assessment of this Outcome should be a single assessment paper taken at a single assessment event lasting one hour and carried out under supervised, controlled conditions. Such a paper should be composed of an appropriate balance of short answer, restricted response and structured questions.

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Administrative information

Unit code:	HR3P 47
Unit title:	Architectural Design Sketching and Drawing
Superclass category:	TD
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History of changes

Version	Description of change	Date

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SQA Advanced Unit specification: support notes

Unit title: Architectural Design Sketching and Drawing

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

It is recommended that the Outcomes in this Unit be completed in the sequence in which they are presented. This does not preclude some integration of the Outcomes during teaching, tutorial and assessment. Videos, slides, photographs etc can be used to illustrate the architectural content of the Unit. Visits to buildings of architectural interest will also contribute to the learning process. Sketching exercises may be undertaken in the classroom and in the field, using different techniques and media.

The use of texts and manuals on architecture and related subjects, available from CIAT, CIOB, RIAS, RIBA and RICS as well as other sources, will provide the basis of the information required by candidates to complete the assessment tasks.

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

- 1 Basic architectural design concepts.
- 2 Architectural form, function and mass.
- 3 Construction drawing preparation, standards and conventions.
- 4 Freehand and instrument-aided sketching and illustration.

This Unit at SCQF level 7 is a mandatory Unit within the SQA Advanced Certificate and SQA Advanced Diploma suite of Built Environment.

In designing this Unit, the Unit writers have identified the range of topics they would expect to be covered by the tutors. The writers have also given recommendations as to how much time should be spent on each Outcome. This has been done to help tutors decide what depth of treatment should be given to the topics attached to each of the Outcomes. Whilst it is not mandatory for a centre to use this list of topics, it is strongly recommended that it does so to ensure continuity of teaching and learning across the suite of Built Environment awards and because the assessment pack for this particular Unit is based on the knowledge and/ or skills and list of topics embraced by each of the Outcomes.

The list of topics is given below. Tutors are advised to study this list in conjunction with the assessment exemplar pack so that they can get a clear indication of the standard of achievement expected of candidates undertaking this Unit.

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1 Illustrate basic architectural concepts and elements. (20 hours)

◆ Basic architectural sketching

- Freehand drawing: the purpose and practice
- Elementary techniques: spaces bounded by lines
spaces constructed around axes
straight lines
curved lines
lettering

◆ Sketches

- Plans
- Elevations
- Details
- Freehand perspective

◆ Design process

- Brief
- Analysis
- Synthesis
- Implementation
- RIBA Plan of Work (Design stages)

◆ Principles of design

- Function
- Structure
- Appearance
- Aesthetics

◆ Architectural terms and concepts

- Colour and tone
- Texture
- Proportion
- Scale
- Form or shape
- Solid or void
- Symmetry or balance
- Rhythm

2 Explain the relationships of form, function and mass. (12 hours)

◆ Form

- Point
- Line
- Plane
- Volume
- Influence of function on form

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- ◆ **Function**
 - Simple and/ or complex purposes and uses of buildings
- ◆ **Mass**
 - Definition of shapes or volumes in general outline rather than in detail
 - Visual perception of size and relationships between colour, texture, solid and void, etc

3 Interpret construction drawings. (8 hours)

- ◆ **Construction drawings**
 - Purpose of drawings
 - Types of drawings
 - Site location/ layout plans
 - Location (general arrangement) drawings
 - Assembly drawings
 - Component drawings
- ◆ **Associated information**
 - Schedules
 - Specifications
- ◆ **Drawing standards and conventions**
 - Drawing sizes/layout
 - Line drawing and scales
 - Line types
 - Line quality
 - Dimensions
 - Lettering
 - Graphical symbols
 - Hatching conventions

Guidance on the delivery and assessment of this Unit

The content of the Unit builds on the knowledge and understanding of drawings and sketching gained in the Unit Construction Communications. It is recommended that this Unit be completed prior to the commencement of Architectural Design Sketching and Drawing.

The content of the Unit forms the basis for much of the work to be undertaken in the construction technician study programme. It is essential that students are familiar with the basic principles of design and sketching. To this end, the lecture programme could be supplemented with the use of site visits. Design sketches, construction drawings, technical literature, British Standards and the Scottish Building Standards should be used extensively to ensure the candidate understands the basic design and construction concepts.

This Unit could be assessed holistically by the production of a portfolio of evidence generated by the candidate during designated tutorial time within the centre or in private study time outwith the confines of the centre. Much of the evidence could arise from tasks set by the tutor to elicit appropriate graphical responses that meet the Evidence Requirements demanded by the Outcomes. Some written text will be required to satisfy the descriptive elements of Outcomes 2 and 3.

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It is the responsibility of the centre to satisfy themselves that the portfolio of evidence submitted for assessment is entirely original and solely the respective student's work.

Where available, evidence from the workplace can also be incorporated to enhance the learning Outcomes, provided that this evidence is appropriate and authenticated as the student's own work.

Opportunities for developing Core Skills

The following grid provides a general guide to opportunities for the development of Core Skills in this Unit. Opportunities for the development of Core Skills at the output level are more fully identified in the Core Skills Signposting Guide.

Core Skill	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
1 Communication					
Reading	3	3	3		
Writing	3	3	3		
Oral	3	3	3		
2 Numeracy					
Using Number					
Using Graphical Information					
3 IT					
Using Information Technology					
4 Problem Solving					
Critical Thinking	3	3	3		
Planning and Organising					
Reviewing and Evaluating	3	3			
5 Working with Others					

Open learning

Given that appropriate materials exist, this Unit could be delivered by distance learning, which may incorporate some degree of on-line support. However, with regard to assessment, planning would be required by the centre concerned to ensure the sufficiency and authenticity of candidate evidence. Arrangements would be required to be put in place to ensure that assessment/s were conducted under controlled, supervised conditions.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

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General information for candidates

Unit title: Architectural Design Sketching and Drawing

This Unit is designed to enable you to develop competence in graphical communication techniques, especially in the field of architectural drawing and sketching. In addition, you will also develop a knowledge and understanding of basic architectural design concepts and elements.

The content of the Unit builds on the knowledge and understanding of drawings and sketching gained in the Unit Construction Communications, it is recommended that this Unit be completed prior to the commencement of Architectural Design Sketching and Drawing.

The content of the Unit forms the basis for much of the work to be undertaken in the construction technician study programme. It is essential that you are familiar with the basic principles of design and sketching. To this end, the lecture programme could be supplemented with the use of site visits. Design sketches, construction drawings, technical literature, British Standards and the Scottish Building Standards should be used extensively to ensure that you understand the basic design and construction concepts.