

Higher National Unit Specification

General information for centres

Unit title: Architectural Procedures and Design

Unit code: DW3P 34

Unit purpose: The Unit is designed to develop the candidate's knowledge of the structure and operation of architectural design organisations; the procedure and practice used in design and procurement processes.

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

- 1 Explain the function of the RIBA Plan of Work in a building design project.
- 2 Explain the duties and responsibilities of the design team in architectural design.
- 3 Explain the procedures adopted to establish and control costs during design stages.
- 4 Explain the architect's role in administering a construction project.
- 5 Apply basic ergonomic and anthropometric data.

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: It would be of advantage if a candidate has a basic knowledge and understanding of the construction industry. Possession of basic knowledge and understanding may be evidenced by possession of an introductory Unit to the construction industry. In addition, it would also be of advantage if candidates had an awareness of the architect's various relationships to other members of the construction team as defined in Standard Forms of Construction Contract. The candidate should also have some design expertise allowing a graphical response to Outcome 5.

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.

General information for centres (cont)

Assessment: It is recommended that the assessment of Outcomes 1, 2, 3 and 4 be combined into an integrative assessment lasting 2 hours. Assessment of Outcome 5 is a design exercise lasting no more than 4 hours. All assessment work should be conducted under supervised and controlled conditions. It should be noted that candidates must achieve all the minimum evidence specified for each Outcome in order to pass this Unit.

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 examples 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.

Higher National Unit specification: statement of standards

Unit title: Architectural Procedures and Design

Unit code: DW3P 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.

Throughout the Unit emphasis will be placed where appropriate on the application of Health & 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

Explain the function of the RIBA Plan of Work in a building design project

Knowledge and/or skills

- ◆ RIBA Plan of Work stages
- ◆ Conditions of engagement for architects
- ◆ Brief development
- ◆ Sketch plans, working drawings, site operations, feedback

Evidence Requirements

Evidence for the knowledge and/or skills for this Outcome will be provided on a sample basis. In any assessment of this Outcome a minimum of **two out of four** knowledge and/or skills items should be sampled, one of which must be the RIBA Plan of Work. In order to ensure that candidates will not be able to foresee what items they will be questioned on, a different sample of knowledge/skill items is required each time the Outcome is assessed. Candidates must provide a satisfactory response to both items.

A candidate's response can be judged to be satisfactory where the evidence provided is sufficient to meet the requirements for both items by showing that the candidate is able to:

- ◆ describe the RIBA Plan of Work and explain its function in a building design project

Assessment guidelines

The assessment of this Outcome should be combined with that for Outcome 2, 3, 4 to form one assessment paper for the Unit. This single assessment paper should be taken at a single assessment event lasting two hours 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.

Higher National Unit specification: statement of standards

Unit title: Architectural Procedures and Design

Outcome 2

Explain the duties and responsibilities of the Design Team in architectural design

Knowledge and/or skills

- ◆ Design Team members
- ◆ The architect as lead consultant
- ◆ Delegated roles and responsibilities
- ◆ The importance of a communications structure
- ◆ Construction (Design and Management) Regulations
- ◆ The building contractor as designer

Evidence Requirements

Evidence for the knowledge and/or skills for this Outcome will be provided on a sample basis. In any assessment of this Outcome a minimum of **three out of six** knowledge and/or skills items should be sampled, one of which must be the Design team members. In order to ensure that candidates will not be able to foresee what items they will be questioned on, a different sample of knowledge/skill items is required each time the Outcome is assessed. Candidates must provide a satisfactory response to all three items Evidence Requirements.

A candidate's response can be judged to be satisfactory where the evidence provided is sufficient to meet the requirements for both items by showing that the candidate is able to:

- ◆ explain the duties and responsibilities of the design team and its members in an architectural design process

Assessment guidelines

The assessment of this Outcome should be combined with that for Outcome 1, 3, 4 to form one assessment paper for the Unit. This single assessment paper should be taken at a single assessment event lasting two hours 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.

Outcome 3

Explain the procedures adopted to establish and control costs during design stages

Knowledge and/or skills

- ◆ Budget control and cost planning
- ◆ Cost checking and reports
- ◆ Analysing whole life costs
- ◆ Office job costs, programming and resources

Higher National Unit specification: statement of standards (cont)

Unit title: Architectural Procedures and Design

Evidence Requirements

Evidence for the knowledge and/or skills for this Outcome will be provided on a sample basis. In any assessment of this Outcome a minimum of **two out of four** knowledge and/or skills items should be sampled. In order to ensure that candidates will not be able to foresee what items they will be questioned on, a different sample of knowledge/skill items is required each time the Outcome is assessed. Candidates must provide a satisfactory response to both items.

A candidate's response can be judged to be satisfactory where the evidence provided is sufficient to meet the requirements for both items by showing that the candidate is able to:

- ◆ describe and explain the procedures adopted to establish and control costs during design stages

Assessment guidelines

The assessment of this Outcome should be combined with that for Outcome 1, 2, 4 to form one assessment paper for the Unit. This single assessment paper should be taken at a single assessment event lasting two hours 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.

Outcome 4

Explain the architect's role in administering a construction project

Knowledge and/or skills

- ◆ Traditional procurement, design and build, management contracting
- ◆ Types of contract
- ◆ Forms for contract administration
- ◆ Possession and completion
- ◆ Control of the works
- ◆ Payment
- ◆ Contractual difficulties, determination, arbitration, mediation
- ◆ Feedback

Evidence Requirements

Evidence for the knowledge and/or skills for this Outcome will be provided on a sample basis. In any assessment of this Outcome a minimum of **three out of eight** knowledge and/or skills items should be sampled. In order to ensure that candidates will not be able to foresee what items they will be questioned on, a different sample of knowledge/skill items is required each time the Outcome is assessed. Candidates must provide a satisfactory response to all three items.

A candidate's response can be judged to be satisfactory where the evidence provided is sufficient to meet the requirements for both items by showing that the candidate is able to:

- ◆ describe and explain aspects of the architect's role in administering a construction project

Higher National Unit specification: statement of standards (cont)

Unit title: Architectural Procedures and Design

Assessment guidelines

The assessment of this Outcome should be combined with that for Outcome 1, 2, 3, to form one assessment paper for the Unit. This single assessment paper should be taken at a single assessment event lasting two hours 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.

Outcome 5

Apply basic ergonomic and anthropometric data

Knowledge and/or skills

- ◆ Ergonomic design
- ◆ Activity areas, travel and circulation
- ◆ Natural and artificial lighting

Evidence Requirements

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 demonstrating appropriate knowledge and skills in this Outcome will be provided by the production of design drawings. The design should demonstrate the candidate's understanding of ergonomic design along with the associated considerations of circulation and lighting.

Assessment guidelines

The assessment of this Outcome will take the form of a classroom supervised drawing assignment. The candidate should produce design drawings showing plan and internal elevation of a proposed kitchen arrangement or some other appropriate space. These drawings should be annotated and dimensioned to demonstrate the candidate's awareness and understanding of ergonomic planning and spatial requirements. This design exercise should take no longer than four hours.

Administrative Information

Unit code:	DW3P 34
Unit title:	Architectural Procedures and Design
Superclass category:	TD
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Higher National Unit specification: support notes

Unit title: Architectural Procedures and Design

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:

- 1 Structure and implementation of the RIBA Plan of Work.
- 2 Various members of the design team, their function and duties.
- 3 Design stage cost control techniques.
- 4 Post contract administration, the architect as supervising officer.
- 5 Ergonomic design.

In designing this Unit the writers have identified the range of topics they would expect to be covered by lecturers. The writers have also given recommendations as to how much time should be spent on each Outcome. This has been done to help lecturers to decide what depth of treatment to give each of 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 on the basis that the exemplar pack for this Unit is based on the knowledge and list of topics in each of the Outcomes.

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

Outcome 1: (10 hours)

This Outcome describes the importance of structured and standardised systems currently in place for the design component of building projects. The object of these systems is to provide clear guidance on design procedures — a modus operandi for administering projects based on sequential work stages.

◆ RIBA Plan of Work stages

- Traditional project procurement path
- Plan of Work stages A–M inclusive
- Plan of Work tasks

◆ Conditions of engagement for architects

- Standard Form of Agreement for the appointment of an architect
- Schedule of architect's services
- Architect's fees
- Plan of Work stages to be serviced
- Client information requirements

Higher National Unit specification: support notes (cont)

Unit title: Architectural Procedures and Design

◆ **Brief development**

- Client and design team meetings
- Project programming and progress
- Site and survey data
- Feasibility studies

◆ **Sketch plans, working drawings, site operations, feedback**

- Outline proposals and scheme design
- Detail design, production information, bills of quantities, tender action
- Project planning, work on site, completion
- Analyse the management, construction and performance of the project

Outcome 2: (8 hours)

The candidate is introduced to the roles and relationships of the different professions and other members of the project team.

◆ **Design team members**

- Client representative, planning supervisor, architect, quantity surveyor, structural engineer, mechanical and electrical engineer, project manager, contractor/supplier.

◆ **The architect as lead consultant**

- RIBA Code of Professional Conduct, RIBA Guidelines for Sound Practice, Architect's Appointment, Architect's job Book, Architect's Handbook of Practice Management

◆ **Delegated roles and responsibilities**

- Duties of the client
- Duties of the architect
- Duties of the quantity surveyor
- Duties of the structural and services engineers
- Duties of the contractor

◆ **The importance of a communications structure**

- Communications monitoring and control
- Drawings, schedules and their issue
- Telecommunications and digitised communications systems
- Letters and architect's instructions
- Recording information

◆ **Current Construction (Design and Management) Regulations**

- Health and safety issues in the design process
- The duties of the planning supervisor and principal contractor
- Health and safety issues in the construction process
- Health and safety file
- Building owner's and building user's manuals

Higher National Unit specification: support notes (cont)

Unit title: Architectural Procedures and Design

◆ The building contractor as designer

- Client requirements
- The role of the architect
- The roles and responsibilities of the building contractor

Outcome 3: (6 hours)

The need for financial stringency and accountability is explained through the inter-action of the client, architect, quantity surveyor and building contractor.

◆ Budget control and cost planning

- Factors affecting costs
- Client requirements
- Estimating and cost forecasting

◆ Cost control and reporting

- Interim valuations and certificates
- Valuation reports
- Varying the work
- Final measurement and valuation

◆ Analysing whole life costs

- Costs in use
- Cost forecasting
- The impact of future events

◆ Office job costs, programming and resources

- Payments in/payments out
- Programming the job
- Staffing
- Practice resources

Outcome 4: (10 hours)

Considering the architect as the supervising officer within a traditional construction contract. This Outcome amplifies the duties imposed on the architect by way of the building contract to ensure a satisfactory resolution of the project.

◆ Traditional procurement, design and build, management contracting

- Client — architect — building contractor — project manager

◆ Types of contract

- JCT contracts and variants

Higher National Unit specification: support notes (cont)

Unit title: Architectural Procedures and Design

- ◆ **Forms for contract administration, possession and completion, control, payment**
 - Architects instruction
 - Clerk of works direction
 - Extension of time
 - Completion and non-completion
 - Defects liability
 - Interim certificate
 - Retention
 - Final certificate

- ◆ **Contractual difficulties, determination, arbitration, mediation**
 - Claims
 - Dispute resolution legislation
 - Contractual responsibilities

- ◆ **Feedback**
 - Performance of the business organisation
 - Profitability
 - Performance of building contractor
 - Client's requirements met

Outcome 5: (6 hours)

Planning and design principles in accordance with ergonomic standards is explained and illustrated.

- ◆ **Ergonomic design**
 - Ergonomic principles and application
 - Basic anthropometric data
 - BS 3705 and 6212
 - Department of Environment Design Bulletin 24
 - Kitchen planning guidelines

- ◆ **Activity areas, travel and circulation**
 - Building Standards (Scotland) Regulations
 - AJ Metric Handbook

- ◆ **Natural and artificial lighting**
 - Building Standards (Scotland) Regulations
 - Task and background lighting requirements
 - Lighting manufacturer's recommendations

Higher National Unit specification: support notes (cont)

Unit title: Architectural Procedures and Design

Guidance on the delivery and assessment of this Unit

SQA allocates a notional design length to a Unit on the basis of time estimated for the achievement of the stated standards by a candidate whose starting point is as described in the section entitled 'Recommended Prior Knowledge and Skills'. The notional design length for this Unit is 40 hours.

It is recommended that the Outcomes be completed in the sequence presented. This does not preclude integration of the diverse subject matter during teaching, tutorials and assessment.

It is possible that assessment of this Unit might be integrated into an Architectural Design Project whereby a phased commentary on the architectural procedures utilised at different stages within the project timeframe ensures proper building procurement.

The Unit could be presented in the context of design and procurement procedures for a proposed housing, commercial or industrial development following a traditional procurement route. It is important that the candidate acquires an appreciation of the authority and responsibilities of the professionals involved and the strategies and methods adopted to ensure the success of the project. Case studies, site visits, practice visits and discussions with visiting professionals may be used to enhance and illustrate the various elements of the Unit content.

The use of texts and manuals from profession lead bodies and other technical sources may provide the basis of information around which assessment is based.

Candidates should be encouraged to expand the learning experience through involvement with an architectural practice. Such experience will allow an appreciation of the range of skills and the variety of solutions to design, management and contractual matters which can be found in such organisations.

Candidates should be encouraged to expand the learning experience by referring to publications produced or recommended by the RIBA, RIAS, CIAT, CIOB, RICS, etc.

Candidates should achieve the level of competence required of technician staff employed in the construction industry in such areas as architectural technology, building inspection and maintenance, construction management, project management and quantity surveying.

Higher National Unit specification: support notes (cont)

Unit title: Architectural Procedures and Design

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	✓	✓	✓	✓	
Writing	✓	✓	✓	✓	
Oral					
2 Numeracy					
Using Number					
Using Graphical Information					
3 IT					
Using Information Technology					
4 Problem Solving					
Critical Thinking					✓
Planning and Organising					
Reviewing and Evaluating					
5 Working with Others					

Open learning

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 the candidate evidence. Arrangements would require to be put in place to ensure that the closed-book assessment covering Outcomes 1 to 4, which is required to be at a single event, was conducted under controlled, supervised conditions.

For information on normal open learning arrangements, please refer to the SQA guide *Assessment and Quality Assurance of Open and Distance Learning*

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.

General information for candidates

Unit title: Architectural Procedures and Design

This Unit will provide you with knowledge and understanding of the architectural profession, the way that it functions and its relationship to all the other members of the building team.

You will be made aware of the various formal systems that exist to cope with the complexities of a building design project and the realisation of that design into an actual building. These systems are generally based upon a planning arrangement for administering projects based on sequential work stages and called the 'RIBA Plan of Work'.

The timeframe considered is from the first point of contact between the client and the architect through to the client's making use of the completed building.

As well as the many and varied procedural aspects considered, a design exercise has also been incorporated into the Unit. This will test your ability to plan and design an area in response to specific ergonomic factors.

On completion of the Unit you will have developed knowledge and skills in the following areas:

- ◆ structure and implementation of the RIBA Plan of Work
- ◆ various members of the design team, their function and duties
- ◆ design stage cost control techniques
- ◆ post contract administration, the architect as supervising officer
- ◆ ergonomic design