



## National Unit Specification: general information

**UNIT** Architectural Project (SCQF level 6)

**CODE** F3JD 12

### SUMMARY

This Unit is suitable for candidates with limited experience in the construction industry who aim for a career as technicians, technologists and other construction professionals.

The aim of this Unit is to develop the candidate's ability to apply knowledge and skills, gained through study of other component parts of the Course, to the solution of real or hypothetical architectural design problems.

Candidates will investigate the design and planning strategies for a construction project based on a low-rise domestic building. Site surveys will be carried out and a site appraisal will be compiled. The candidates will produce sketch designs and construction drawings of the proposed design solution.

### OUTCOMES

- 1 Plan an architectural design project.
- 2 Prepare linear and levelling surveys and a site appraisal.
- 3 Develop a building design proposal.
- 4 Produce construction drawings.
- 5 Prepare an evaluation report on the completed project.

### RECOMMENDED ENTRY

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

F3JE 12	<i>Building Design and Technology (SCQF level 6)</i>
F3J8 12	<i>Computer Aided Drawing for Construction (SCQF level 6)</i>
F3JM 12	<i>Construction Site Surveying: An Introduction (SCQF level 6)</i>
F3JN 11	<i>Drawing for Construction (SCQF level 5)</i>

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### Administrative Information

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## **National Unit Specification: general information (cont)**

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### **CREDIT VALUE**

1 credit at Higher (6 SCQF credit points at SCQF level 6\*).

*\*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**

There is no automatic certification of Core Skills or Core Skill components in this Unit. Opportunities for developing aspects of Core Skills are highlighted in *Guidance on Learning and Teaching Approaches*.

## **National Unit Specification: statement of standards**

### **UNIT        Architectural Project (SCQF level 6)**

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 SQA.

#### **OUTCOME 1**

Plan an architectural design project.

##### **Performance Criteria**

- (a) List the major types of information found in a Design Brief.
- (b) Identify the activities to be carried out in response to Design Brief requirements.
- (c) Programme identified activities accurately in sequence.

#### **OUTCOME 2**

Prepare linear and levelling surveys and site appraisal.

##### **Performance Criteria**

- (a) Prepare an accurate linear survey of a selected site.
- (b) Prepare an accurate levelling survey of a selected site.
- (c) Prepare a site appraisal correctly.

#### **OUTCOME 3**

Develop a building design proposal.

##### **Performance Criteria**

- (a) Prepare outline sketch designs to satisfy a given brief.
- (b) Select one design and justify choice.
- (c) Select and describe suitable construction methods for structure and enclosure elements.

#### **OUTCOME 4**

Produce construction drawings.

##### **Performance Criteria**

- (a) Identify the range of drawings required and describe the information they contain.
- (b) Prepare a site location plan at 1:1250 scale.
- (c) Prepare a site layout at 1:500 scale.
- (d) Prepare two general arrangement drawings at 1:50 scale.
- (e) Prepare a construction detail at 1:10 scale.

## **National Unit Specification: statement of standards (cont)**

### **UNIT        Architectural Project (SCQF level 6)**

#### **OUTCOME 5**

Prepare an evaluation report on the completed project.

#### **Performance criteria**

- (a) Report on the design proposals for client approval.
- (b) Summarise the design process and learning experience accurately.

#### **EVIDENCE REQUIREMENTS FOR THIS UNIT**

Written and/or oral and product evidence is required which demonstrates that the candidate has achieved all Outcomes in this Unit and all Performance Criteria within the Outcomes.

The assessment for this Unit is a combination of practical and knowledge-based activities. While it is possible to assess each Outcome on an individual basis, it is anticipated that the assessment for this Unit will be carried out as an integrated assignment to prepare a portfolio of work.

The portfolio of work is a collection of evidence including the planning of the project, the physical survey of an appropriate site, all sketch design proposals, the required construction drawings along with an evaluation of the completed project. The production of the folio of work will be carried out in open-book, supervised conditions. Candidates will work in small teams for surveying work and individually for associated indoor computation and graphical work using shared data.

During this assessment candidates are free to co-operate with colleagues in the researching of technical information and construction technology details. Candidates may also confer with one another regarding design factors and concepts. Assessors must, nevertheless, satisfy themselves that candidates' portfolios contain their own work.

The Assessment Support Pack for this Unit provides appropriate sample assessment materials. Where centres wish to develop their own assessment materials they should refer to the Assessment Support Pack to ensure a comparable standard.

## **National Unit Specification: support notes**

### **UNIT          Architectural Project (SCQF level 6)**

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**

The design of buildings is a highly complex operation demanding a wide range of skills. Not least of those is the ability to understand precisely what is being asked of the designer. This Unit is particularly concerned with the candidate's ability to demonstrate understanding of the architectural design processes through a design project. Information will be gathered, assessed and utilised to underpin all aspects of the design, the success of which will be related to meeting stated requirements and identified design criteria.

This Unit is set in the context of domestic development of a single residential Unit. The overall aim of the project is to allow candidates to demonstrate their ability to complete a number of tasks which are essential to the design process of a small building site for a domestic property. The tasks are grouped under the following Outcomes:

- 1    Plan a project.
- 2    Prepare linear and levelling surveys.
- 3    Develop a building design proposal.
- 4    Prepare construction drawings.
- 5    Prepare an evaluation report.

It is expected that a suitable site, in the vicinity of or within easy reach of the centre, be selected for the project and that a design proposal be developed for the site, considering topography and access.

The project devised by the centre should set parameters within which each individual candidate can select a building size and type, and develop construction proposals. Candidates will work in small teams for surveying work and individually for associated indoor computation and graphical work, using shared data.

To ensure reliability and credibility, all assessment work should be carried out under controlled conditions. With project work, this means that the assessor must closely monitor the progress of each candidate's work to ensure that evidence submitted is the candidate's own work.

Candidates should be required to prepare a portfolio of evidence containing the project plan, survey data, computations and reports, drawings, the project evaluation and any other relevant information.

#### **GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT**

It is intended that this Unit will integrate the skills and knowledge gained from other Units within the NC Built Environment/Civil Engineering framework. As a result, the candidate should be introduced to the case study at a very early stage in the presentation of the Unit.

## National Unit Specification: support notes (cont)

### UNIT Architectural Project (SCQF level 6)

It is likely that the tutor/lecturer may have to recapitulate some of the content of the other Units in order to reinforce the learning and knowledge of the candidate in specific areas. This recap of previous work would be entirely appropriate, but must be left to the discretion of the assessor to decide to what extent any review would be required.

To begin this Unit, the candidate should be given a design case study for a given site. The project should be based on a single house development. A design brief or list of client's requirements should be included along with a statement of space standards.

Once the candidate has reviewed the client's brief, the given site and the requirements of the assignment, the candidate should consider the tasks that need to be carried out in order to complete the assignment. The candidate will produce a feasible project plan which will identify the sequence of activities, set clear time scales for the completion of the stages of the project and provide a method of recording progress. This helps to develop skills in analysing, prioritising, planning and setting of goals. Once the planning phase is complete, the candidate should be encouraged to follow the planned activities in a logical manner.

One of the priorities will be to carry out the site surveys and appraisal. A site should be selected on which the candidate, working as a member of a small group, will carry out a linear survey to gather the necessary data for preparation of the detailed site plan and a levelling survey for the purpose of establishing site contours. The site should be no less than 0.10 hectares, possible access routes should be considered and the project devised by the centre should specify the minimum level of accuracy stated in the Unit Construction Site Surveying: An Introduction. All booking and field work notes should be retained.

The candidate will be provided with a client brief for a house containing accommodation requirements and notional space requirements (floor areas). The candidate will be required to prepare a minimum of two draft sketch designs of proposed house types that meet the client's requirements. The candidate should select one of the proposed designs which is considered to satisfy well the client's needs. The candidate will consider alternative forms of construction and select the most appropriate for the selected design. Evidence will be required that the candidate has considered the advantages and disadvantages of alternative house types, methods of construction and accommodation layouts.

The candidate should compile a list of the range of drawings that would be required for the development and, for each drawing type, describe the information it contains. The candidate will also prepare a range of sketches and drawings, some manually and others using a commercial CAD system. A site location plan and a site layout plan should be prepared along with two general arrangement drawings and a typical construction detail.

The candidate will be required to write a brief evaluation report on the completed project. This should include a summary of what has been learned by undertaking the project and an appraisal of the building proposal to identify deficiencies and suggest refinements and improvements.

## National Unit Specification: support notes (cont)

### UNIT Architectural Project (SCQF level 6)

#### OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will be:

- ◆ applying theoretical knowledge to the planning of an architectural design project
- ◆ interpreting and presenting complex graphic information
- ◆ calculating and applying complex numerical data

These offer opportunities to develop aspects of the Core Skills of:

- ◆ *Numeracy*
- ◆ *Problem Solving*
- ◆ *Information Technology*

#### GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

##### Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by information and communications technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

This Unit gives candidates experience of the activities of planning, land surveying, designing, sketching and drawing. Although candidates will further develop their knowledge and understanding of these activities, Unit assessment is focused on the application of this knowledge and understanding.

Each Outcome may be assessed individually in a logical sequence, or the whole may be assessed as an integrated case study. In either circumstance, the candidate is required to satisfy all conditions laid down in the statement of Evidence Requirements.

It is anticipated that Outcomes 1, 2, 3, 4 and 5 may be assessed using a single, integrated case study.

Planning for the presentation of this Unit should allow some time for remediation and re-assessment. Given the nature of the assessment of this Unit, where a candidate just fails to achieve the required performance for a Pass, re-assessment of one or more of the sub-tasks may be all that is required to bring the candidate's performance up to the required standard. However, if the candidate's performance is substantially below that required for a Pass, centres should consider that a different assessment is given for re-assessment purposes.

## **National Unit Specification: support notes**

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### **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](http://www.sqa.org.uk)).