-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- **0085421** **-Session-1988-89**

-Superclass- **TE**

-Title- **CONSTRUCTION STUDIES ($x^1/_2$)**

-DESCRIPTION-

Purpose

This module is designed to introduce students following a career in construction to the basic forms of single storey construction and the common faults associated with bad workmanship and poor construction.

Preferred Entry Level

85002 Construction Materials and Products
65601 Construction Drawing 1

Learning Outcomes

The student should:

1. understand the construction and functions of the main elements and components of a building;

2. know the sequence of activities in the construction of a small building;

3. know common defects associated with faulty construction of a building.

Content/ Context

Safe working practices and procedures should be observed at all times.

The following content is not to be considered a prescriptive list but is intended to provide a guide to factors and processes frequently encountered in the construction industry.

<u>Corresponding to Learning Outcomes 1-3:</u>

1. Main elements/components: foundations; superstructure; floors; roofs; services; finishes; doors; windows. Functions: structural strength; thermal insulation; sound insulation; fire resistance; servicing functions; weather resistance; structural stability and purpose; aesthetic requirements.

2. Single storey domestic building: traditional cavity wall; timber frame.

Single storey framed building: concrete or steel industrial unit.

Activities to include: superstructure; foundation; roof construction; frame; underbuilding; finishings; floor construction; services; substructive; preliminaries; external works; clear up and hand over.

3. Lack of damp proof course (dpc) and damp proof membrane (dpm), inadequate frost cover, poor choice of foundation type relative to type of subsoil, no air vent, no cavity fill, wall not centred on foundation, lack of sleeve at service entry in underbuilding, no expansion joints, dpc and dpm not connected, no cavity barrier, poor placement of ceiling insulating material at eaves, vapour checks omitted, lack of felt drip to gutter, flat roof bituminous felt membrane not isolated from effects of localised movement.

Suggested Learning and Teaching Approaches

Extensive use of audio visual materials and classroom discussion should form a sound basis for the teaching and learning processes within this module. If time permits site visits would further enhance knowledge and understanding. Although limited, students should be encouraged to relate their own experience and perceptions to the subject matter whenever possible. In Learning Outcome 2 considerable scope should be given to identifying and relating specific activities within the student's own craft to the overall construction process.

Assessment Procedures

Acceptable performance in the module will be satisfactory achievement of all the performance criteria specified for each Learning Outcome.

The following abbreviations are used below:

LO Learning Outcome
IA Instrument of Assessment
PC Performance Criteria

LO1 UNDERSTAND THE CONSTRUCTION AND FUNCTIONS OF THE MAIN ELEMENTS AND COMPONENTS OF A BUILDING

PC The student:

(a) shows the constructional detail of building elements and components;
(b) annotates a diagram using the correct terminology associated with building elements and components;

(c) identifies the main functions associated with building elements and components within a structure.

IA(1) Assignment

The student will be set an assignment to test the application of knowledge of the main elements and components of a structure.

The assignment will be based on the student being presented with partly completed sketches as an outline for each of any four elements and/or components of a building.

IA(2) Matching Exercise

The student will be set an exercise to test the students knowledge of the functions of building elements.

The exercise will consist of one list of 4 building elements and/or components and one list of 10 functions.

Satisfactory achievement of the Learning Outcome will be based upon the student for IA1 satisfying performance criteria (a) and (b) for any 3 of the 4 building elements and for IA(2) matching 2 appropriate functions to each of 4 building elements or components.

LO2 KNOW THE SEQUENCE OF ACTIVITIES IN THE CONSTRUCTION OF A SMALL BUILDING

PC The student:

(a) identifies sequence of activities in the construction of single storey domestic buildings;
(b) identifies sequence of activities in the construction of single storey framed structures.

IA Objective exercise:

The student will be presented with exercises to test the student's ability to list the site activities required to carry out the construction of a small building in a logical sequence.

The test will consist of 2 exercises to include:

(a) a list of 10 activities based on the construction of a single storey domestic building;
(b) a list of 10 activities based on the construction of a single storey framed structure.

The list of 10 activities should be in random order and include at least 1 specific activity related to the interest of the user group and at least 6 broad activities covering the construction of the building.

Satisfactory achievement of the Learning Outcome will be based upon the student listing a logical sequence of activities in the construction of (a) and (b).

LO3 KNOW COMMON DEFECTS ASSOCIATED WITH FAULTY CONSTRUCTION OF A BUILDING

PC The student:

(a) identifies areas of faulty construction;
(b) states the main effects of the defects associated with faulty construction.

IA Structured questions

The student will be presented with questions to test the recall of knowledge related to common defects associated with faulty construction of a building.

The test will consist of 4 questions each covering 1 example of faulty construction.

Annotated sketches, diagrams, slides or actual materials may be used in the test.

Satisfactory achievement of the Learning Outcome will be based upon the student identifying the area of faulty construction and describing potential defects that may occur for 3 of the 4 examples provided.