

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**- HIGHER NATIONAL UNIT -
SPECIFICATION INFORMATION**

UNIT TITLE: Selection and Management of
Machinery for Land Based
Industries

UNIT CODE: D4PE 34

LEGACY CODE: 1430217
(D4PE 04)

SUPERCLASS: SK

**SOME REFERENCE CODES QUOTED IN THE TEXT
OF THIS DOCUMENT MAY BE OUT OF DATE**

**SCOTTISH VOCATIONAL EDUCATION COUNCIL
HIGHER NATIONAL UNIT SPECIFICATION**

UNIT NO: 1430217
SUPERCLASS: SK
UNIT TITLE: Selection and Management of Machinery
for Land Based Industries

GENERAL COMPETENCE FOR UNIT:

Identifying the factors which influence the selection, evaluation and maintenance requirements of machinery for use in a land based industry, and preparing management programmes for machinery replacement and maintenance.

CREDIT VALUE: 1 HN Credit

OUTCOMES

1. identify machinery for a given situation in a land based industry
2. prepare a five year machinery replacement programme for a given land based situation.
3. produce an annual maintenance schedule for machinery in a given situation in a land based industry.

ACCESS

Access to this unit will be at the discretion of the centre. However, it would be beneficial if the student knowledge of golf course machinery. Evidence of this may be the possession of National Certificate Modules:

74423 Small Engine Powered Machine Operation
94460 Horticultural Machinery: Grass Maintenance
68230 Turf Maintenance Equipment: Operation and Maintenance

HIGHER NATIONAL UNIT SPECIFICATION

STATEMENT OF STANDARDS

UNIT NO: 1430217

UNIT TITLE: Selection and Management of Machinery
for Land Based Industries

OUTCOME 1:

IDENTIFY MACHINERY FOR A GIVEN SITUATION IN A LAND BASED
INDUSTRY

PERFORMANCE CRITERIA

- a) The identification of machinery to be selected for a given situation is appropriate to ensure a high standard of maintenance.
- b) The identification of machinery is appropriate in terms of projected performance and efficiency.
- c) The identification of machinery to be selected is comprehensive and appropriate to budgetary constraints.

RANGE:

Tasks: maintenance; construction.

Machine selection: role; efficiency; quality; range; running costs; price.

Machine type: self propelled; ride on; pedestrian operated; trailed; mounted.

Technical Specifications: power rating; engine types; drive systems.

EVIDENCE REQUIREMENTS:

Written and/or oral evidence, with illustrative material, of the candidate's ability to select an appropriate range of machinery for a given situation within budgetary considerations.

OUTCOME 2

PREPARE A FIVE YEAR MACHINERY REPLACEMENT PROGRAMME FOR A GIVEN LAND BASED SITUATION.

PERFORMANCE CRITERIA

- a) The content of the machinery replacement programme is appropriate in terms of requirements of a given land based industry.
- b) The machinery replacement programme is appropriate and in accordance with the budget available
- c) The machinery replacement programme is well structured, clear and legible.

RANGE:

Machinery acquisition: buying behaviour; marketing; dealer and brand loyalty; sources of information; after sales service; loans; credit; purchase; leasing; hire purchase; contract hire; depreciation; implications for taxation.

Machinery disposal: sale; auctions; trade-ins; scrap value.

EVIDENCE REQUIREMENTS

Written and/or oral and graphical evidence demonstrating the candidate's ability to plan a machinery replacement programme for a given land-based situation.

OUTCOME 3:

PRODUCE AN ANNUAL MAINTENANCE SCHEDULE FOR MACHINERY IN A GIVEN SITUATION IN A LAND BASED INDUSTRY.

PERFORMANCE CRITERIA

- a) The classification and scheduling of machine maintenance is accurate and appropriate to the terms of the manufacturers recommendations.
- b) The selection of part requisition policy is appropriate to meeting the maintenance schedule requirements.
- c) The maintenance schedule produced is workable in terms of resources and facilities available.
- d) The maintenance schedule is clear, legible, accurate and correct.

RANGE

Manuals: operator; technical; service; workshop.

Maintenance options: contracted out; in-house.

Records: use; service; repair; value.

Stock: parts; fuels; lubricants; hydraulic fluids; sundries.

EVIDENCE REQUIREMENTS

Written and/or oral evidence that the candidate can plan and monitor the maintenance of machinery in a given land-based situation

NOTE

The following pages of this unit specification contain Support Notes.

It should be noted that these Support Notes will normally be specific to the context of the award in which the unit was first validated.

HIGHER NATIONAL UNITS SPECIFICATION

SUPPORT NOTES

UNIT NO: 1430217

UNIT TITLE: Selection and Management of Machinery for Land Based Industries

SUPPORT NOTES:

This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

NOTIONAL DESIGN LENGTH

SCOTVEC allocates a notional design length to a unit on the basis of the time estimated for the achievement of the standards by a student whose starting point is as described in the access statement. The notional design length for this unit is 40 hours. The use of notional design length for programme design and timetabling is advisory only.

PURPOSE

The purpose of this unit is to enable the candidate to identify the machinery requirements for a given land based situation, to prepare long term replacement programmes for machinery, and to manage a fleet of machinery in terms of its maintenance. The unit is intended for candidates who have experience of operating machinery within their particular land based situation, but who have not had to take responsible for the management of it.

CONTENT/CONTEXT

The following information gives further clarification regarding the context in which the outcomes and performance criteria are to be achieved.

Outcome 1:

The range of maintenance and construction or capital works tasks which are routine within the particular land based sector, and the range of machinery required to undertake such work efficiently. A full working knowledge of the types of machines and the variations within them is also expected of the candidate.

Outcome 2:

The candidate should demonstrate an understanding of a range of machine acquisition methods as expressed in the range statement for the outcome. He or she should also demonstrate understanding of the pros and cons of different machinery disposal methods.

Outcome 3

The candidate should show knowledge of the requirements for maintenance of the range of machine drive systems. Interpretations of operation, technical and service manuals should be made, as should the correct selection of fuels and lubricants for known systems. Correct record keeping for a fleet of machinery for a land based sector should be demonstrated. The advantages and disadvantages of in-house and contracted out maintenance should be understood.

AWARD OF PASS

A candidate achieves all performance criteria for all outcomes will be awarded a pass in the unit.

AWARD OF PASS WITH MERIT

Pass with merit may be awarded to a candidate who has successfully achieved all the outcomes of the unit and in addition have consistently demonstrated the qualities of personal effectiveness and originality. These qualities will be judged by reference to the following:

- 1a. The machines selected show investigation of a wide range of machinery has taken place.
- 1b. A comprehensive range has been achieved to the budget allocated.
- 2a. The replacement policy programme shows clear knowledge of existing machinery, its lifespan and enables the continuation of a high level of maintenance.
- 2b. The programme meets all requirements of the relevant land based industry particularly in relation to monies available.
- 3a. The maintenance schedule is clearly workable for the relevant land based industry, using all resources and facilities to an optimum.
- 3b. The schedule produced shows a good clarity of presentation which would be suitable for tabling at a meeting.