

SQA Advanced Unit specification

General information for centres

Unit title: Golf Course Management: Selection and Management of Machinery

Unit code: HW89 47

Unit purpose: This Unit is designed to enable candidates to develop the skills and knowledge required to select and manage machinery in one or more land-based industry. Candidates will require to identify factors that influence the selection, evaluation and maintenance requirements of machinery for a land based industry, and preparing management programmes for machinery replacement. Health and Safety issues are stressed throughout the Unit.

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

- 1 Identify a suitable range of machinery for a land based situation.
- 2 Produce annual maintenance schedules for machinery in a given situation in a land based industry.
- 3 Prepare a five year machinery replacement programme for a given land based situation.

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: Entry to this Unit is at the discretion of the centre however, it is recommended that candidates possess the following Units or equivalents:

E8K6 10 *Small Engine Powered Machine Operation*
E9CL 12 *Horticultural Machinery: Grass Maintenance*
E8C0 11 *Turf Maintenance Equipment: Operation and Maintenance*

Core Skills: There are opportunities to develop the Core Skills of *Problem Solving, Working with Others, Communication, Numeracy* and *IT* at SCQF level 6 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.

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Assessment: This Unit is assessed by three instruments of assessment. Outcome 1 is assessed by a report. Outcome 2 is assessed by means of an assignment presented either as an oral or written report. Outcome 3 is assessed by an assignment. Assessment for this Unit could be project-based and linked to on workplace experience, or it could be based on case study of a land based situation.

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.

Outcome 1

Identify a suitable range of machinery for a land based situation

Knowledge and/or Skills

- ◆ Machine selection: role; efficiency; quality; range; running costs; price
- ◆ Machine type: self-propelled; ride on; pedestrian operated; trailed; mounted
- ◆ Technical specification: power rating; engine types; drive systems
- ◆ All relevant health and safety considerations
- ◆ Part requisition policies

Evidence Requirements

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

- ◆ select machinery for a given situation that is appropriate to ensure a high standard of maintenance
- ◆ ensure the identification is appropriate in terms of projected performance and efficiency
- ◆ ensure the identification of machinery to be selected is comprehensive and appropriate to budgetary constraint
- ◆ identify all relevant health and safety requirements

Assessment Guidelines

Outcome 1 is assessed by a report. This should consist of written evidence, with illustrative material, of the candidate's ability to select an appropriate range of machinery for a given situation within budgetary considerations. The report should conform to a given format and should not exceed 1,000 words including tables and supporting information. The assessment should be conducted under open-book conditions.

Outcome 2

Produce annual maintenance schedules for machinery in a given situation in a land based industry

Knowledge and/or Skills

- ◆ 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

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

- ◆ plan a machinery replacement programme for a given land-based industry
- ◆ ensure that the classification and scheduling of machine maintenance is accurate and appropriate in terms of the manufacturers recommendations
- ◆ demonstrate that the selection of a part requisition policy is appropriate to meeting the maintenance schedule requirements
- ◆ demonstrate that the maintenance schedule produced is workable in terms of resources and facilities available
- ◆ ensure that the maintenance schedule is clear, legible, accurate and correct
- ◆ all relevant health and safety considerations

Assessment Guidelines

Outcome 2 is assessed by an Assignment presented as either an oral or written report. The assignment report should conform to a given format and should not exceed 1,000 words including tables and supporting information. The assessment should be conducted under open-book conditions. Alternatively the candidate could deliver the report orally as a presentation to the class in which case the above assessment conditions also apply.

Outcome 3

Prepare a five year machinery replacement programme for a given land based situation

Knowledge and/or Skills

- ◆ Machinery acquisition
- ◆ Buying behaviour
- ◆ Marketing
- ◆ Dealer and brand loyalty
- ◆ Sources of information
- ◆ After sales service, loans
- ◆ Credit, purchase
- ◆ Contract hire
- ◆ Depreciation
- ◆ Implications for taxation
- ◆ Machinery disposal
- ◆ Sale, auctions, trade- ins, scrap value

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Evidence Requirements

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

- ◆ ensure the content of the machinery replacement programme is appropriate in terms of requirements of a given land based industry
- ◆ ensure the machinery replacement programme is appropriate and in accordance with the budget available
- ◆ ensure the machinery replacement programme is well structured, clear and legible and conforms to a given format

Assessment Guidelines

Outcome 3 is assessed by an Assignment. The candidate is required to prepare a five-year machinery replacement programme. The report should conform to a given format and should not exceed 1,000 words including tables and supporting information. The assessment should be conducted under open-book conditions.

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Administrative Information

Unit code:	HW89 47
Unit title:	Golf Course Management: Selection and Management of Machinery
Superclass category:	SK
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History of changes:

Version	Description of change	Date

Source: SQA

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SQA Advanced Unit specification: support notes

Unit title: Golf Course Management: Selection and Management of Machinery

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 purpose of this Unit is to enable the candidate to identify the machinery requirements for a given land based situation, to prepare a long-term replacement programme 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 responsibility for the management of it.

Outcome 1 introduces the candidate to the range of maintenance and construction of 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 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.

Outcome 3: The candidate should demonstrate an understanding of a range of machine acquisition methods as expressed in the assessment guidelines for the Outcome. He or she should also demonstrate understanding of the pros and cons of different machinery disposal methods.

Health and safety considerations (legislation + codes of practice) should be fully integrated into the delivery and assessment of the Unit.

Guidance on the delivery and assessment of this Unit

This Unit is likely to form part of a Group Award in the land-based sector and is designed to provide candidates with the technical and professional knowledge and skills relating to fleet machinery management. It is likely to be delivered after candidates have achieved a good appreciation of the machinery in a land based industry. Candidates should be encouraged to project the machinery requirements for a given situation.

Use could be made of: external speakers; site visits; case studies; group work.

Opportunities for developing Core Skills

While there are opportunities to develop all five Core Skills (*Problem Solving, Working with Others, Communication, Numeracy and IT*) at SCQF level 6, there is no automatic certification of Core Skills or Core Skills components.

Open learning

It is possible for this Unit to be delivered by means of distance learning. Candidates should be provided with a land based case study in which they must provide the machinery requirements, maintenance schedules, and replacement plans.

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.

General information for candidates

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The purpose of this Unit is to enable you to identify the machinery requirements for a given land based situation, to prepare a long-term replacement programme for machinery, and to manage a fleet of machinery in terms of its maintenance. It would be useful if you have already gained experience of operating machinery within your particular land based situation, but have not had to take responsibility for the management of it.

Outcome 1 studies the range of maintenance and construction of capital works tasks that are routine within your particular land based sector, and the range of machinery required to undertake such work efficiently. A full working knowledge of the types machines and the variations within them is also expected of you.

Outcome 2: You should demonstrate 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.

Outcome 3: You should demonstrate an understanding of a range of machine acquisition methods as expressed in the assessment guidelines for the Outcome. You should also demonstrate understanding of the pros and cons of different machinery disposal methods.

Health and safety considerations (legislation + codes of practice) will be fully integrated into the delivery and assessment of the Unit.

On completion of this Unit you will be able to:

- ◆ identify a suitable range of machinery for a land based situation
- ◆ produce annual maintenance schedules for machinery in a given situation in a land based industry
- ◆ prepare a five year machinery replacement programme for a given land based situation