

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0098228 -Session-1989-90
-Superclass- SF

-Title- TURF MAINTENANCE

-DESCRIPTION-

Purpose This module is designed to enable the student to acquire practical skills required for turf maintenance.

This module should be taught as part of an integrated programme of sports turf modules and is designed to complement 98229 Turf Production.

The module is suitable for students who intend to follow a career in the leisure and recreation sector or in soft landscaping.

Preferred Entry Level 98033 Introduction to Plant Protection
68005 Green Plant (x 1/2)

Outcomes The student should:

1. explain the effects a range of mowing methods and growth retardants have on different grass areas;
2. mow an area of grass using a selection of mowers;
3. recognise effects and explain how to control pests, diseases, weeds, moss and other disorders occurring in turf;
4. prepare a maintenance programme covering a twelve month period;
5. carry out maintenance on an area of turf.

Assessment
Procedures

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

The following abbreviations are used below:

PC Performance Criteria
IA Instrument of Assessment

Note: The Outcomes and PCs are mandatory and cannot be altered by arrangement with SQA. (Where a range of performance is indicated, this should be regarded as an extension of the PCs and is therefore mandatory).

OUTCOME 1**EXPLAIN THE EFFECTS A RANGE OF MOWING METHODS AND GROWTH RETARDANTS HAVE ON DIFFERENT GRASS AREAS**

- PCs (a) State the effects of a range of mowing methods on different grass areas.
(b) State the effects of growth retardants as an alternative to mowing.

IA Restricted Response Questions

The student will be set an exercise which tests the knowledge of the effects mowing and grass retardants will have on turf.

The exercise will consist of 5 restricted response questions as follows:

- (i) range of height of cut for different situations
- (ii) advantages and disadvantages of removal or return of grass cuttings
- (iii) conditions under which it would be desirable to mow grass
- (iv) effects of growth retardants on grasses
- (v) effects of a range of mowing methods on various grass areas.

Satisfactory achievement of the Learning Outcome will be based on the student producing 4 correct responses.

OUTCOME 2**MOW AN AREA OF GRASS USING A SELECTION OF MOWERS**

- PCs (a) mow an area of grass using:
- (i) a cylinder mower;
 - (ii) a rotary or a flail mower

IA Practical Exercise

The student will be presented with an exercise to test the application of the skills required to mow an area of grass using different machines.

The practical exercise should be undertaken on surfaces of not less than thirty square metres.

The exercise will be carried out using an observation checklist.

The following checklist may be used:

- (i) check height of cut;
- (ii) start machine correctly;
- (iii) operate machine effectively;
- (iv) overlap minimum
- (v) turn machine correctly;
- (vi) stop and park machine correctly.

Satisfactory achievement of the Outcome will be based on the student attaining all of the performance criteria.

OUTCOME 3**RECOGNISE EFFECTS AND EXPLAIN HOW TO CONTROL PESTS, DISEASES, WEEDS, MOSS AND OTHER DISORDERS OCCURRING IN TURF**

- PCs (a) Identify a variety of disorders found in turf.
(b) State the effects of a variety of disorders.
(c) Describe methods for controlling each of the following:
- (i) pests;
 - (ii) diseases;
 - (iii) weeds;
 - (iv) moss;
 - (v) other disorders.

IA Assignment

The student will be set an assignment to test the application of knowledge and skills required to recognise effects and explain how to control pests, diseases, weeds, moss and other disorders occurring in turf.

The assignment will consist of two parts:

- (i) The student will be required to complete a practical exercise for PC (a) which involves the identification of a variety of disorders found in turf.

The student will be expected to identify 22 disorders found in turf, allocated as follows:

- (1) 4 turf pests
 - (2) 4 turf diseases
 - (3) 10 turf weeds
 - (4) 2 mosses
 - (5) 2 other disorders (e.g. algae, lichens)
- (ii) The student will be set 10 restricted response questions, 5 for PC (b) and 5 for PC (c) allocated as follows:
- (1) 1 on turf pests
 - (2) 1 on turf diseases
 - (3) 1 on turf weeds
 - (4) 1 on mosses
 - (5) 1 on other disorders (e.g. algae, lichens)

Satisfactory achievement of the Outcome will be based on:

- (i) the student correctly identifying 22 disorders found in turf.
- (ii) the student producing 4 out of 5 correct responses for each performance criterion.

OUTCOME 4

PREPARE A MAINTENANCE PROGRAMME COVERING A TWELVE MONTH PERIOD

- PCs (a) Prepare a detailed maintenance programme to cover a 12 month period;
- (b) State sequence and timing of operation.

IA Assignment

The student will be set an assignment involving the production of a work programme for maintenance of a given area of turf. The programme should cover a twelve month period.

As part of the exercise the student will be given details of the site.

Satisfactory achievement of the Learning Outcome will be based on the student producing a maintenance programme which could be complemented in a practical situation.

OUTCOME 5**CARRY OUT MAINTENANCE ON AN AREA OF TURF**

- PCs (a) Renovate an area of damaged turf;
(b) Carry out two of the following turf maintenance operations:
- (i) nutrition;
 - (ii) irrigation;
 - (iii) aeration;
 - (iv) top dressing;
 - (v) brushing/switching;
 - (vi) weed, pest or disease control.

IA Practical Exercise

The student will be presented with a practical exercise to test the demonstration of the application of practical skills required to renovate an area of damaged turf. As part of the exercise the student will be expected to carry out a variety of maintenance operations.

The exercise will consist of the student repairing a damaged area of turf and carrying out two maintenance operations from those listed under performance criteria (b)..

The student may be assessed using an observation checklist.

Satisfactory achievement of the Learning Outcome will be based on the student repairing one piece of damaged turf and implementing two maintenance operations.

**The following sections of the descriptor are offered as guidance.
They are not mandatory.**

CONTENT/CONTEXT

Safety regulations, safe working practices and procedures and legal requirements should be observed at all times.

Corresponding to Outcomes 1-5:

1. Reference should be made to:
 - (a) correct methods of mowing and to the effects produced by, and remedies for, faulty mowing;
 - (b) suitable heights of cut for a range of grassed areas in both summer and winter;
 - (c) the advantages and disadvantages of the return or removal of grass clippings;
 - (d) the use and value of growth retardants in relation to mowing, or as an alternative.
2. Practical work using two different types of machines.
3. (a) Before embarking on control measures, identification of:
 - (i) the causal organisms and the effects produced by pests and diseases of turf
 - (ii) weeds, moss and other disorders in turf:

Problem Number (at least a minimum of)

pests	4
diseases	4
turf weeds	10
moss	2
other disorders	3

- (b) summarise an example of cultural and chemical techniques of control.
4. The student should be able to explain the reasons for and the timing of other maintenance operations carried out on turf.

Reference should be made to a real or a fictitious situation. Programme should refer to frequency of mowing, fertilisation requirements, pest and disease control, weed control, irrigation, aeration, scarification nutrition, top dressing, renovation, rolling, brushing and switching.

5. (a) Participation in both daily/weekly and seasonal maintenance.
- (b) A working knowledge of:
- (i) the effect of play in adverse conditions;
 - (ii) renovation of worn/damaged areas;
 - (iii) preparation for winter play;
 - (iv) preparation for special events.

Turf maintenance records over a period of time which might include the importance of keeping:

- (i) a basic record of work carried out over a period of at least six weeks;
 - (ii) a basic service record of mechanical equipment used over the period;
 - (iii) a basic record of materials used over the period.
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SUGGESTED LEARNING AND TEACHING APPROACHES

An extended timetabling for this module may be necessary to cater for the seasonal nature of the skills.

Demonstration and student participation in production of correctly mown areas and area showing mowing faults.

Student devised trial using grass growth retardants in a range of situations compared with control areas receiving no treatment.

Identification of weeds, diseases, pests. Control measures.

Site visits and practical/demonstration work.
