

-SQA- SCOTTISH QUALIFICATIONS AUTHORITY

NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION

GENERAL INFORMATION

-Module Number- 1230116

-Session- 1996-97

-Superclass- SG

-Title- ARBORICULTURAL TECHNIQUES: USE OF SPECIALIST EQUIPMENT

-DESCRIPTION-

GENERAL COMPETENCE FOR UNIT: Applying basic arboricultural skills using a range of specialist tools and equipment.

OUTCOMES

1. describe a range of tree support systems and implement flexible bracing to support the structure of the tree;
2. carry out specified tasks using a range of winches;
3. remove stumps of felled trees to prevent disease;
4. dispose of arisings from tree surgery and apply techniques to increase the value of felled timber;
5. gain access to the crown of trees for work purposes using mechanical equipment.

CREDIT VALUE: 1 NC Credit

ACCESS STATEMENT: 88157 Tree Climbing and Rescue Techniques; 88155 Tree Surgery Using hand Tools; 1153011 Felling and Processing Trees using a Chainsaw.

For further information contact: Committee and Administration Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ.

Additional copies of this unit may be purchased from SQA (Sales and Despatch section). At the time of publication, the cost is £1.50 (minimum order £5.00).

NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION**STATEMENT OF STANDARDS****UNIT NUMBER:** 1230116**UNIT TITLE:** ARBORICULTURAL TECHNIQUES: USE OF SPECIALIST EQUIPMENT

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME

1. DESCRIBE A RANGE OF TREE SUPPORT SYSTEMS AND IMPLEMENT FLEXIBLE BRACING TO SUPPORT THE STRUCTURE OF THE TREE

PERFORMANCE CRITERIA

- (a) The selection of a support system for a particular tree is correct.
- (b) The operation of flexible cable bracing from the ground is carried out correctly.
- (c) The evaluation of the range of support systems available is correct.

RANGE STATEMENT

Flexible cable bracing: 25cm diameter bole.

EVIDENCE REQUIREMENTS

Written evidence in the form of a checklist which covers the activities in the performance criteria (a) and (b). Written and/or oral evidence of the candidate's ability to evaluate the range of support systems.

OUTCOME

2. CARRY OUT SPECIFIED TASKS USING A RANGE OF WINCHES

PERFORMANCE CRITERIA

- (a) The identification of the appropriate winch for a specific task is correct.

- (b) The procedures used in the application of the winch are carried out correctly.

RANGE STATEMENT

Types of winch: turfor, minimum pull of 5 tons.

EVIDENCE REQUIREMENTS

Written evidence which satisfies performance criterion (b). Oral evidence which satisfies all performance criteria and critical classes.

OUTCOME

- 3. REMOVE STUMPS OF FELLED TREES TO PREVENT DISEASE

PERFORMANCE CRITERIA

- (a) The selection of the method of stump removal on a given stump is correct.
- (b) The explanation of winch care and maintenance is correct.

RANGE STATEMENT

The range for this outcome is fully expressed in the performance criteria.

EVIDENCE REQUIREMENTS

Written evidence which satisfies all performance criteria and critical classes.

OUTCOME

- 4. DISPOSE OF ARISINGS FROM TREE SURGERY AND APPLY TECHNIQUES TO INCREASE THE VALUE OF FELLED TIMBER

PERFORMANCE CRITERIA

- (a) The demonstration of the use of an item of equipment for disposing of arisings is correct.
- (b) The demonstration of the use of appropriate items of equipment and machinery is carried out effectively with regard to increasing the value of the timber.
- (c) Safe working practices are correctly adhered to in terms of current Health and Safety Legislation.

RANGE STATEMENT

Disposal equipment: professional standard machines.

EVIDENCE REQUIREMENTS

Written evidence in the form of a checklist which indicates that all relevant tasks to complete a job have been carried out. Additional written evidence in the form of a report listing safety points for the particular machine observed.

OUTCOME

5. USE EQUIPMENT FOR GAINING ACCESS TO THE CROWN OF TREES FOR WORK PURPOSES

PERFORMANCE CRITERIA

- (a) The identification of the range and type of equipment available is full and correct.
- (b) The participation in tasks where such equipment is involved is full and correct.

RANGE STATEMENT

Type of equipment: hydraulic platform with reach of 8m.

EVIDENCE REQUIREMENTS

Written evidence in the form of a short report covering the availability of equipment and expected hire costs.

ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the SQA assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

SPECIAL NEEDS

In certain cases, modified outcomes and range statements can be proposed for certification. See references at end of support notes.

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NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION**SUPPORT NOTES**

UNIT NUMBER: 1230116

UNIT TITLE: ARBORICULTURAL TECHNIQUES: USE OF SPECIALIST EQUIPMENT

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: SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate 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 This module is designed to compliment the following: 88157 Tree climbing and rescue; 88155 Tree surgery using hand tools; 11530011 Felling and processing trees using a chainsaw.

SQA publishes summaries of NC units for easy reference, publicity purposes, centre handbooks, etc. The summary statement for this unit is as follows:

On completion of this module the candidate will be familiar with specialist equipment used in arboriculture to aid the management of amenity trees.

CONTENT/CONTEXT The candidate should gain hand on experience and understanding of specialist arboricultural equipment and techniques.

Corresponding to Outcomes 1-5

1. the candidate should be able to carry out flexible cable bracing to the specification of the BS 3998.

Boles of 25cm diameter should be set firmly into the ground to simulate a double leader that will require support.

The candidate should be able to summarise the range of equipment and techniques that are available for support within the tree. Where possible the candidate should be able to see examples of support that has been used in the local area and discuss the success or other wise of the work. It is important that the candidate can evaluate the range of systems available and be able to recommend a system for a given tree. In addition the candidate should be made aware of the costs of installation and maintenance along with any legal implications.

2. The candidate should be aware of the various uses winches can be put in to arboriculture. It is important that the candidate is shown how to use more than one type of winch and equally important that at least one of these is capable of pulling more than 5 tones. The legal aspects of winches and cables should be discussed and the candidate made fully aware of the test requirements of ropes winches and lifting tackle.
3. Candidates should be involved in removal of tree stumps. It is important that a professional stump grinder is used for this purpose. In Addition candidates should be able to use a winch to remove a stump and also be aware of stump removal using a coupe stick whilst winching over a tree. candidates should be able to evaluate the methods chosen.
4. Candidate should be able to use a professional wood chipper to dispose of arisings. They should also be made aware of the various uses that wood chips can be put to. It is also important they are aware of the relative advantages/disadvantages of tractor mounted chippers and self propelled ones.

The candidate should see various types of equipment for dealing with a large saw log on site. They should know that if it is planked up there may be value added to that timber. The emphasis is on demonstrations of various items of machinery available in the area. It is anticipated that this may involve no more than a demonstration of a heavy duty piece of equipment.

5. This outcome should allow the candidate to carry out tree surgery operations from a mobile platform. The various pieces of legislation should be explained and the advantages and disadvantages of this use should be emphasised. The candidate should be aware of the Health and safety executives thoughts on their use. It is expected that a hydraulic platform will be hired for the purpose of this outcome. This should have a reach of 8M.

APPROACHES TO GENERATING EVIDENCE This is a practically based module and most of it should be delivered in a hands on fashion on site. The module should feature a candidate-centred, resource based approach.

ASSESSMENT PROCEDURES

Outcome 1: Skills check list.

Outcome 2: Skills check list.

Outcome 3: Skills check list.

The check list will contain all the relevant tasks that are required in order to correctly complete a job. The candidate will require questioning to determine level of understanding especially related to safety.

Outcome 4: Skills check list.

Outcome 5: Project.

PROGRESSION This module would allow progression to arboricultural, horticultural and other related programmes and contributes toward vocational training in the land based sector.

RECOGNITION Many SQA NC units are recognised for entry/recruitment purposes. For up-to-date information see the SQA guide 'Recognised Groupings of National Certificate Modules'.

REFERENCES

1. Guide to unit writing. (A018).
2. For a fuller discussion on assessment issues, please refer to SQA's Guide to Assessment. (B005).
3. Procedures for special needs statements are set out in SQA's guide 'Candidates with Special Needs'. (B006).
4. Information for centres on SQA's operating procedures is contained in SQA's Guide to Procedures. (F009).
5. For details of other SQA publications, please consult SQA's publications list. (X037).

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