



Higher National Unit specification

General information for centres

Unit title: Arboriculture Practice

Unit code: F3YA 34

Unit purpose: This Unit is designed to build the candidate's skill to employ safe and efficient techniques to climb trees and to apply the correct procedures to care for and to maintain trees.

The Unit is relevant to candidates requiring the basic competence based skills to climb trees safely using current climbing equipment and to train them in basic aerial rescue techniques.

The Unit will also give the candidates an understanding of corrective and preventative tree surgery techniques.

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

- 1 Select and maintain climbing equipment.
- 2 Climb trees and carry out an aerial rescue.
- 3 Perform basic tree surgery operations.
- 4 Explain the biology and processes of wound healing in woody plants.

Credit points and level: 2 HN credit(s) at SCQF level 7: (16 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 Access 1 to Doctorates.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre.

Core Skills: There are opportunities to develop the Core Skills of *Working with Others* at SCQF level 5 and the Oral Communication component of *Communication* at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

General information for centres (cont)

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.

This Unit is included as a mandatory Unit in the framework of the:

- ◆ HNC Arboriculture and Urban Forestry
- ◆ HND Arboriculture and Urban Forestry

Assessment: Outcomes 1, 2 and 3 could be assessed holistically. This could take the form of a practical exercise on a given site using a checklist for the tasks carried out together with an assignment to evidence the knowledge and understanding achieved and to assess the more theoretical aspects of the practical exercise. Outcome 4 could be assessed by a short essay.

Higher National Unit specification: statement of standards

Unit title: Arboriculture Practice

Unit code: F3YA 34

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

Select and maintain climbing equipment

Knowledge and/or Skills

- ◆ Arboricultural climbing equipment
- ◆ Arboricultural equipment storage
- ◆ Safety checks
- ◆ Knots and taped ends
- ◆ Mechanical climbing devices

Evidence Requirements

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

- ◆ carry out and log the safety checks required for commonly used arboricultural climbing equipment. This must include ropes, harness, karabiners and strops.
- ◆ correctly store ropes and arboricultural equipment to preserve their safe use.
- ◆ correctly construct commonly used knots and taped ends required for the safe execution of tree climbing operations. This must include Bowline, Blake's hitch, Prusik hitch, Clove hitch, Timber hitch, and Figure of eight.
- ◆ select appropriate mechanical climbing devices for a given situation. This must include climbing spurs and flip line.

Assessment Guidelines

Outcome 1 could be assessed holistically with Outcomes 2 and 3. This could take the form of a practical exercise on a given site using a checklist for the tasks carried out together with an assignment to evidence the knowledge and understanding achieved and to assess the more theoretical aspects of the practical exercise. The practical element would be in a team effort but the assignment would be on an individual basis (suggested word limit for the assignment 800 words or equivalent).

Higher National Unit specification: statement of standards (cont)

Unit title: Arboriculture Practice

Outcome 2

Climb a tree and carry out an aerial rescue

Knowledge and/or Skills

- ◆ Tree climbing skills and techniques
- ◆ Aerial rescue procedures and techniques
- ◆ Code of practice for tree climbing rescue
- ◆ Tree legislation

Evidence Requirements

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

- ◆ climb a tree in a safe and efficient manner using appropriate techniques and equipment.
- ◆ use the correct procedures to rescue a colleague from a tree crown in a simulated rescue. Candidates must carry out the operation safely.
- ◆ identify the Codes of Practice that apply to tree rescue and tree climbing.
- ◆ identify the legislation that applies to tree rescue and tree climbing.

Assessment Guidelines

Outcome 2 could be assessed holistically with Outcomes 1 and 3. This could take the form of a practical exercise on a given site using a checklist for the tasks carried out together with an assignment to evidence the knowledge and understanding achieved and to assess the more theoretical aspects of the practical exercise. The practical element would be in a team effort but the assignment would be on an individual basis (suggested word limit for the assignment 800 words or equivalent).

Higher National Unit specification: statement of standards (cont)

Unit title: Arboriculture Practice

Outcome 3

Perform basic tree surgery operations

Knowledge and/or Skills

- ◆ Corrective tree surgery operation
- ◆ Preventative tree surgery operation
- ◆ Young trees
- ◆ Mature trees
- ◆ British Standards
- ◆ Codes of Practice for tree surgery operations

Evidence Requirements

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

- ◆ explain the relevant current British Standards that apply to tree surgery operations
- ◆ explain the relevant current Codes of Practice that apply to tree surgery operations
- ◆ explain the practices relating to the care of young trees to help prevent future problems and to correct current ones
- ◆ explain the practices relating to the care of mature trees to help prevent future problems and to correct current ones
- ◆ carry out at least one corrective tree surgery operation and at least one preventative tree surgery operation using appropriate procedures

Assessment Guidelines

Outcome 3 could be assessed holistically with Outcomes 1 and 2. This could take the form of a practical exercise on a given site using a checklist for the tasks carried out together with an assignment to evidence the knowledge and understanding achieved and to assess the more theoretical aspects of the practical exercise. The practical element would be in a team effort but the assignment would be on an individual basis (suggested word limit for the assignment 800 words or equivalent).

Outcome 4

Explain the biology and processes of wound healing in woody plants

Knowledge and/or Skills

- ◆ Physiological responses within a tree as a result of injury or infection
- ◆ Compartmentalisation
- ◆ Wound dressings in tree surgery
- ◆ Tree surgery intervention

Higher National Unit specification: statement of standards (cont)

Unit title: Arboriculture Practice

Evidence Requirements

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

- ◆ explain the processes relating to the physiological responses that a tree undergoes when injured or suffers from infection.
- ◆ explain the stages and the process of compartmentalisation that the tree undergoes to protect itself.
- ◆ explain how the compartmentalisation process can be assisted by tree surgery intervention.
- ◆ explain the use of at least two different wound dressings in relation to the future health and recovery of trees. This explanation must include the advantage and disadvantages of using each wound dressing.

Assessment Guidelines

Outcome 4 could be assessed by an essay to evidence the knowledge and understanding of the subject matter and to evaluate the use of tree wound dressings (suggested word limit for the essay 600 words or equivalent including diagrams, supporting material, etc.).

Administrative Information

Unit code: F3YA 34
Unit title: Arboriculture Practice
Superclass category: SG
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Arboriculture Practice

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 80 hours.

Guidance on the content and context for this Unit

This Unit is included as mandatory in the framework for the following Group Awards:

- ◆ HNC Arboriculture and Urban Forestry
- ◆ HND Arboriculture and Urban Forestry

It is recommended that the delivery of this Unit should be through a combination of lectures, site visits and practical exercises.

The Unit is intended for candidates to experience practical as well as theoretical development in tree care and equipment use. The candidate will be made aware of the social, environmental and current legislation that protects trees, as well as Health and Safety.

The following support notes cover the mandatory requirements of the Unit and recommended aspects that could be covered in teaching and learning.

Outcome 1

The purpose of this Outcome is to enable the candidate to become familiar with arboricultural climbing equipment and its care and use, logging under current Health and Safety legislation. Equipment such as harnesses, climbing ropes, split tails, and ring strops and other current equipment commonly in use.

Outcome 2

This Outcome will develop the techniques used in tree climbing and in aerial rescue. Practical exercise in climbing safely using rope and harness in trees. Carry out an aerial rescue with a human casualty with a simulated injury. Assess injury, immobilise and secure casualty and lower to ground and transport to ambulance access.

Outcomes 3 and 4

In these Outcomes candidates will be able to develop a range of techniques and apply corrective and preventative tree surgery, with the understanding of tree biology and the wound healing processes of woody plants. Dead wooding, crown lifting, crossing branches and assessing injury and disease in the crown.

Higher National Unit specification: support notes (cont)

Unit title: Arboriculture Practice

Guidance on the delivery and assessment of this Unit

The Unit has been developed and designed to provide candidates with the technical and professional knowledge and skills relating to tree care and management in the context of its biology and the part it plays as a component of the green infrastructure in the environment, as well as a social and health value.

Outcome 1, 2 and 3

The candidates could produce a checklist of equipment maintenance and use records.

They will also be assessed by the tutor using a checklist, which details their competence in tree climbing, identifying equipment condition, knots, safe practice, techniques, aerial rescue procedures and tree surgery operations undertaken.

The candidates will also produce evidence on current Codes of Practice in use and the current legislation in operation (suggested word limit of 800 words or equivalent).

Outcome 4

This could be assessed by an essay evaluating the biology and wound healing properties of trees covering, types of wound, compartmentalisation theory, correct pruning point of the branch to promote effective healing of wounds, time of year for different species (suggested word limit for the essay 600 words or equivalent including diagrams, supporting material, etc.).

Opportunities for developing Core Skills

There are opportunities to develop the Core Skills of *Working with Others* at SCQF level 5 and the Oral Communication component of *Communication* at SCQF level 6 in this Unit. These opportunities will arise particularly in Outcome 2, where candidates have to work with others and communicate clearly to carry out an aerial tree rescue.

Open learning

All Outcomes are appropriate for open and distance learning approaches, and it would be good practice to provide candidate packs and tutor input and support at all stages. Centre-devised supervision agreements should detail any conditions to ensure authenticity of evidence.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

General information for candidates

Unit title: Arboriculture Practice

This Unit is designed to provide you with basic tree climbing skills so that you can operate safely and with confidence in a tree crown some distance from the ground using rope and harness. The Unit will also teach you basic tree surgery operations and the underlying principles relating to the healing of tree wounds.

The Outcomes that you will acquire on completion of the Unit are as follows:

Outcome 1 will give you knowledge about the equipment used for safe tree climbing operations and how to maintain and store the equipment to ensure its safe status. You will learn the correct knots and climbing devices used for safe climbing practice.

Outcome 2 will give you practice in the safe use of climbing equipment and practice in the procedures needed to climb trees and to rescue a fellow climber from the crown of a tree. This Outcome also provides knowledge of the relevant legislation and the Codes of Practice climbers adhere to.

Outcome 3 will give you practice in tree surgery techniques and operations.

Outcome 4 will give you an understanding of how a tree responds to injury and infection.

This Unit is a mandatory Unit in the HNC Arboriculture and Urban Forestry and the HND Arboriculture and Urban Forestry. It is, however, a freestanding Unit and may be delivered as such for purposes of Continuing Professional Development.

The knowledge and skills acquired in this Unit will help you achieve competence in tree climbing techniques and gain an understanding into preventative and corrective tree surgery practices and the healing properties of trees.

For candidates already in employment this Unit provides an opportunity to extend existing knowledge and skills and lays a sound grounding for further study in arboriculture.

This Unit will give you the opportunity to develop your Core Skill of *Working with Others* at SCQF level 5 and the Oral Communication component of *Communication* at SCQF level 6.