

1. Module details**Module name****Vegetation Control****Module duration**

It is expected that students with the appropriate entry knowledge and skills will successfully complete this module in 18 – 20 hours.

Module code

NUE206

Discipline code

1101

2. Module purpose

This module aims to provide the student with the basic underpinning knowledge and skills to trim trees under powerlines and to maintain easements without unnecessary damage to the flora/fauna involved. It will involve an understanding of the function of various types of flora within the ecological domain, plant anatomy and physiology and tree hazard assessment. The practical component will involve tree climbing and pruning techniques which are not disadvantageous to the flora involved. This will involve both manual and machine methods. Relevant legislation will be referenced.

3. Prerequisites

NBB002 Occupational Health and Safety.

4. Relationship to competency standards

This module addresses Units 1.8, 2.14 and 4.6 of the E.S.I. National Competency Standards for Overhead Line Work and Cable Jointing and Unit 2.2 of the Electrical Contracting Industry Award Standards (Volume 8).

5. Content**Ecological principles****Introduction to ecology**

interdependence of plants, animals, the soil and the environment
environment
habitats
the food chain

Introduction to soils and erosion control

soil types
simple tests
types of erosion
theory of erosion prevention and control
land degradation control
functions of trees in the environment

Basic anatomy and physiology

plant morphology
internal anatomy
growth patterns and habits
simple physiology

Tree hazard assessment

symptoms of stress in trees
diagnosing tree problems
assessments for line clearance
personal hazards
the tree's response to wounding and decay
theory of compartmentalisation
tree stability (damage to root systems due to excavation)
principles of pruning
branch collars

Australian standards

legislation affecting vegetation control

Tree climbing and pruning

chainsaw safety and maintenance
basic cross-cutting techniques
simple felling
use of EWPs
safe climbing with ropes and harnesses
use of chainsaws in the tree
cutting techniques
roping techniques
climbing with spikes and pole belts
chemical control of foliage and the required safety techniques.
practical work on site with a range of trees

Easement management

legislation relating to easement access and maintenance
use of chemicals and herbicides
use of machinery and plant
access tracks

6. Assessment strategy

Assessment methods

Short answer questions (written, oral or graphic or computer based).
Suitable practical exercises or field observations which assess the skills required of each learning outcome.

Conditions of assessment

Theory room for written tests and external practical field observation.

7. Learning outcome details

Learning outcome 1

Interpret and apply Supply Authority Regulations for vegetation clearance zones around overhead power lines.

Assessment criteria

- 1.1 List the clearance zones required around and the approach distances from overhead power lines and explain their purpose.
- 1.2 Demonstrate an understanding of the legislation relating to easement access and maintenance.

Learning outcome 2

Identify various tree families for selection of pruning methods.

Assessment criteria

- 2.1 Explain how growth patterns and habits of trees influence the method of pruning.
- 2.2 Identify the three families of trees and select appropriate pruning methods.

Learning outcome 3

Examine trees and identify various defects.

Assessment criteria

- 3.1 List common tree defects.
- 3.2 Diagnose tree defects from sample/examples.
- 3.3 Demonstrate tree pruning techniques in response to assessment of a tree's defects.

Learning outcome 4

Explain and demonstrate effective tree pruning methods.

Assessment criteria

- 4.1 Explain and demonstrate the procedure for 'heading back'.
- 4.2 Explain and demonstrate the procedure for 'thinning'.
- 4.3 Explain and demonstrate the procedure for 'pollarding'.
- 4.4 Explain and demonstrate the procedure for 'branch removal'.

Learning outcome 5

Select and disperse chemical herbicides appropriate for the control of vegetation re-growth within Electrical Supply Industry easements and properties.

Assessment criteria

- 5.1 Identify the correct chemical herbicide for controlling vegetation re-growth within Electrical Supply Industry easements and properties.

	<p>5.2 Identify the correct protective apparatus and safety apparel when working with chemical herbicides.</p> <p>5.3 Select and utilise the appropriate method of dispersing chemical herbicide when conducting vegetation control methods.</p>
Learning outcome 6	Demonstrate and explain the use and routine maintenance of tree trimming equipment.
Assessment criteria	<p>6.1 List the safety equipment required and precautions to be observed when tree cutting.</p> <p>6.2 Demonstrate routine maintenance procedures required for tree trimming equipment.</p> <p>6.3 Demonstrate and explain safety procedures associated with tree trimming.</p> <p>6.4 Select appropriate equipment required to perform a given task.</p> <p>6.5 Operate tree pruning equipment safely.</p>
8. Delivery of the module	
Delivery strategy	<p>Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose.</p> <p>It is recommended that learning and assessment be facilitated in a holistic manner which may require a learning sequence other than indicated in the body of this module descriptor.</p>
Resource requirements	<p>Relevant Australian standards</p> <p>Enterprise work manuals and standing instructions</p> <p>Relevant manufacturers' equipment manuals</p> <p>Range of tree trimming tools and equipment</p> <p>Elevating Platform Vehicle</p> <p>Appropriate site</p> <p>Safety Equipment and apparel</p> <p>Suitable equipment for the disposal of cuttings.</p>
Occupational health and safety requirements	<p>Students should be made aware of Occupational Health and Safety issues in all situations and be expected to demonstrate safe working practices at all times. Electrical safety must be emphasised.</p>