

**1. Module details**

**Module name**

**Pruning in an Electrical Environment**

**Module duration**

It is expected that students with the appropriate entry knowledge and skills will successfully complete this module in 36 - 40 hours.

**Module code**

NUE268

**Discipline code**

0703130

**2. Module purpose**

The purpose of this module is to provide participants with the knowledge and skills to perform pruning activities to achieve the tree clearance requirements in the vicinity of electrical assets.

*Note: Pruning activities can be performed from ground level by EWP, or by climbing. Tree parts may be cut and dropped or lowered to the ground using ropes*

**3. Prerequisites**

NBB002 Occupational Health and Safety.  
Common Compulsory Core (All modules)  
Introduction to Tree Climbing

**4. Relationship to competency standards**

NES101, NES450, NES604, RUH HRT208, RUH HRT209

**5. Content**

**Natural target pruning**

**Pruning principles and practices**

**Pruning tools and equipment**

**Pruning and shaping in accordance with industry codes of practice**

**Pruning of trees**

**Use of ropes for branch removal**

## 6. Assessment strategy

### Assessment methods

More than one learning outcome may be assessed at once. If appropriate, learning outcomes in this module may be assessed in conjunction with learning outcomes in other modules

Skills based learning outcomes should be assessed by practical demonstration with oral or written evidence where underpinning knowledge is required

Learning outcomes which do not require practical demonstration should be assessed using oral and/or written evidence such as assignments, reports, exercises, projects or presentations

### Conditions of assessment

Access to appropriate site, resources materials and equipment. Learning outcomes may be assessed either on or off the job. Skills based learning outcomes may be assessed on the job or in a simulated work environment

## 7. Learning outcome details

### Learning outcome 1

**Explain the reasons for pruning in an electrical environment, various types of pruning and its effects on various trees.**

### Assessment criteria

- 1.1 Explain pruning in an arboricultural context.
- 1.2 Distinguish between formative, corrective and preventative pruning.
- 1.3 Describe the effects poor pruning practices have on the shape and future structure of various tree species.
- 1.4 Detail the pruning requirements for various situations and plant types growing in proximity to power lines.
- 1.5 Explain principles of natural target pruning.
- 1.6 Identify branch collars, branch bark ridge and the sequence for branch removal.

**Learning outcome 2**

**Establish rigging for lowering limbs in proximity to power lines.**

**Assessment criteria**

- 2.1 Explain details of the code of practice AS2250 for tree clearing operations.
- 2.2 Inspect the location of the trees to be pruned and position of limbs with respect to conductors, determine the process to be followed in removing branches from the tree by cut and drop or lowering via ropes.
- 2.3 Check conductor voltage with supervisor and ascertain whether power shut off should occur.
- 2.4 Establish the work site placing signage at appropriate distance to ensure safety of public and other unauthorised personnel.
- 2.5 Identify and check the serviceability of ropes pulley and other lowering devices suitable for suspending and lowering of prunings.
- 2.6 Discuss with the ground support worker the procedure to be followed during the operation.
- 2.7 Install rigging by appropriate means. Determine appropriate restraint taking into account the position of the branch, the power lines and the desired direction of swing.
- 2.8 Select rope and secure the branch taking into account the weight distribution of the branch is within the SWL of selected ropes.
- 2.9 Locate anchorage points on the ground, and secure rope in such a way as to control decent.

**Learning outcome 3**

**Assessment criteria**

**Perform pruning task in proximity to power lines.**

- 3.1 Check tools and equipment for pruning operations are in safe working order.
- 3.2 Select appropriate means of pruning trees in proximity to powerlines.
- 3.3 Select and use safety clothing and equipment.
- 3.4 Identify pruning requirements for given trees.
- 3.5 Carry out pre-determined pruning operation by appropriate means.
- 3.6 Communicate with all staff/trainees to check work site is secure.
- 3.7 Remove limbs in accordance with Australian Standards for Amenity Pruning.
- 3.8 Direct ground support personnel to lower the branch in accordance with previously established procedure.

**8. Delivery of the module**

All of part of this module may be delivered through full and part time, on and off the job. Practical components should be delivered in a way that ensures participant safety

Delivery methods must provide for the demonstration of skills and associated knowledge specified in all learning outcomes, either in work place or simulated work place conditions

Delivery should take into account current legislation, regulations and by-laws and be consistent with existing industry standards

**References**

Elliott, Roger W. Pruning: A Practical Guide: Lothian Publishing Company Pty. Ltd. Melbourne, 1989

Mulholland, John. Maintaining Health Trees and Shrubs in Australian Conditions. McBenny Pty. Ltd. Brisbane, 1993.

Shigo, Alex L. A New Tree Biology. Durham New Hampshire, USA, 1986

Shigo, Alex L. Tree Pruning: A Worldwide Photo Guide. Durham New Hampshire, USA, 1988

Standards Australia Australian Standard: Pruning of Amenity Trees AS4373 - 1996

Line clearance tree trimmer certification manual: ACRT, inc. Commercial press inc 1996

American National Standards Institute Tree Care Operations - Safety Requirements: ANSI - 2133.1 - 1994.

Current information brochures published by Federal, State agencies e.g. occupational health and safety, electricity boards

Relevant manufacturer's operation and basic maintenance manuals

Enterprise policy and procedures manuals

Video = Branching Out: An Introduction to Arborist's Training and Safety RPM Flix. Richmond Vic. 1990

Lawrence, T. et al 1993, Practical Tree Management: An Arborist's Handbook, Inkata Press, Melbourne

Lilly, S.J. The Tree Climber's Guide, International Society of Arboriculture Books

American National ANSI - Z133.1 - 1995 Standards

Shigo, Alex L. Tree Defects: A Photographic Guide, PA: USDA Forest Services North East Forest Experiment Station, Broomail, 1983

**Occupational health and safety requirements**

All work and training practices must comply with State and federal occupational health and safety legislation and codes of practice