

1. Module details**Module name****Introduction to Tree Climbing****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

NUE265

Discipline code

1101310

2. Module purpose

The purpose of this module is to provide participants with basic knowledge and skills of tree climbing principles, techniques and their application and to provide skills for ground support and tree climbers during arboricultural operations.

By completing this module participants will be able to demonstrate basic skills and techniques in ground support and in climbing trees, demonstrating the necessary safety precautions and requirements, associated with these operations

3. Prerequisites

NBB002 Occupational Health and Safety.

4. Relationship to competency standards

NES101, NES450, RUH HRT223

5. Content**Rope and knot selection****Climbing principles****Climbing techniques****Ground support for tree climbers****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. (Note this may be achieved at low heights).

7. Learning outcome details

Learning outcome 1

Identify risks and hazards associated with climbing trees.

Assessment criteria

- 1.1 Identify the hazards associated with climbing on a range of work sites.
- 1.2 Recognise arboricultural equipment explaining the purpose for which each item is used.
- 1.3 Detail faults associated with tools and climbing equipment, carrying out tests to check serviceability.
- 1.4 Select and demonstrate the ability to don and adjust arboricultural equipment used in tree climbing.

Learning outcome 2

Select ropes and tie knots used in arboricultural operations.

Assessment criteria

- 2.1 Identify various types of rope, explain their construction characteristics and load capacities appropriate for various uses in arboricultural operations.
- 2.2 Identify and select climbing ropes and carry out standard checks for rope wear or damage.
- 2.3 Identify the types of knots used in arboricultural operations.
- 2.4 Demonstrate the ability to tie the following knots used in arboricultural operations: bowline, bowline on a bight running bowline; Blake's hitch, figure eight, double figure eight; clove hitch, half hitch, timber hitch, reef knot; sheet bend, fisherman's knot, tautline and prussick knot.

Learning outcome 3

Assessment criteria

Demonstrate standard tree climbing techniques.

- 3.1 Using check lists inspect the tree for defects and surrounding environment for hazards.
- 3.2 Establish communication commands with ground support crew member prior to ascent.
- 3.3 Inspect and select ropes and correctly tie climbing knots.
- 3.4 Select tie off points and install climbing lines using ladder, weighted throwing line, casting life line or EWP.
- 3.5 Select, don and adjust climbing gear.
- 3.6 Explain terms associated with climbing and demonstrate functional application of climbing knot configuration.

Learning outcome 4

Assessment criteria

Provide ground support to tree climbing operations.

- 4.1 Establish safe working conditions.
- 4.2 Lay out equipment in preparation for climbing and check serviceability of communication equipment.
- 4.3 Check ropes and equipment for defects.
- 4.4 Establish clear concise communication procedures for climbing operations.
- 4.5 Determine work position with respect to the tree and establish an environment where clear observation of operations are made, for climber and public safety.
- 4.6 Identify hazards and demonstrate raising and lowering of equipment using appropriate knots and attachment points on equipment.
- 4.7 Provide detailed technical advice on climber movement and operation within the tree.

Learning outcome 5

Identify and demonstrate emergency rescue procedures for tree climbers.(Ground operator only).

Assessment criteria

- 5.1 Detail a range of emergency situations that may arise during climbing operations.
- 5.2 Check climber position with respect to live power lines in an emergency.
- 5.3 Assess response requirements and commence emergency response procedures including breaking contact of energised climber. (from ground level only).
- 5.4 Contact emergency services including power supply company.
- 5.5 Commence first aid (CPR Procedures).
- 5.6 Communicate with emergency service workers.
- 5.7 Report and record incident for employer and relevant OH&S authority according to enterprise and state legislative requirements.
- 5.8 Evaluate rescue operation for future emergency rescue situations.

8. Delivery of the module

All or part of this module may be delivered through full or part time, on and off the job and/or distance education modes. 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 including Australian and International Standards

Resource requirements

Access to appropriate materials, tools and equipment including personal protective clothing

Site appropriate for the type of arboriculture activities to be undertaken

References

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

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

Standards Australia Australian Standard: Pruning of Amenity Trees AS 4373 - 1996

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

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

Current relevant federal and state legislation/references covering Acts, Regulations, By-laws, Codes of Practice

Current information brochures published by federal and state OH&S agencies

Relevant manufacturers operation and basic maintenance manuals

Enterprise policy and procedures manuals

Current, relevant video material

Occupational health and safety requirements

All work practices must comply with current State and federal OHS requirements