

1. Module details**Module name****Telecommunications Aerial Cabling****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

NUE197

Discipline code

Electrotechnology - 0703225.

2. Module purpose

This module provides the student with the knowledge required to prepare, haul and joint aerial telecommunication cables up to 100 pair or coaxial cable up to 0.750 inches diameter.

3. Prerequisites

NBB02 Occupational Health and Safety
 NUE190 Telecommunications Standards and Regulations
 NUE191 Telecommunications Cables & Installation Methods

4. Relationship to competency standards

This module provides part of the underpinning knowledge and skills in the 'Evidence Guide' of specific units of competency in the National Electrotechnology Training Package and provides similar support, where mapped, to equivalent units in the National Metals and Engineering Competency Standards. For details refer to the module to unit maps, available from NUEITAB.

5. Content**Safe working environment**

Protective suits

Masks

Safety boots

Head protection

Safety glasses

Knee pads, gloves (plastic, rubber, leather), ear muffs

Witches hats

Flashing lights

Guards

Warning signs and tapes

Traffic signs, vehicle positioning

Weather conditions

Pole voltage (high and/or low)

Soundness of pole

Authority markings

Tests (push, knock, visual, dig and visual)

Public and Private property requirements

Safety practices

Safety belt
 Safety line
 Ladder

Pole top rescue

Personal safety
 First aid techniques (heart lung resuscitation, emergency procedures)

Aerial construction

Purpose and connection/fixing requirements
 Types of construction (power, telephony, broadband, cable TV)
 Suspension types and systems
 Pole types (wood, concrete, steel, composite)
 Regulations (ACA, power authorities, local council)
 Standards and codes of practice

Cable plans

Size
 Type
 Existing and new joints

6. Assessment strategy

Assessment methods

Assessment should be progressive reflecting a holistic approach to ensure the module purpose is met. To assist in ensuring validity, reliability and fairness assessment instruments should include practical exercises, assignments and written tests consisting of a number of item types, such as multiple choice, short answer and problem solving.

Conditions of assessment

Learning and assessment will take place in an environment that is conducive to a learner’s development.

7. Learning outcome details

Learning outcome 1

Establish a hazard-free working environment.

Assessment criteria

- 1.1 Describe the safe use of the relevant safety equipment.
- 1.2 Using appropriate weather guidelines, describe the weather conditions suitable for safe aerial work.

	1.3	Identify whether pole usage is high voltage, low voltage, extra-low voltage, or a combination of all.
	1.4	Describe the correct positioning of relevant roadway and footway guarding, signage and vehicle.
	1.5	Identify possible hazards associated with aerial work.
Learning outcome 2		Determine soundness of pole for aerial cabling.
Assessment criteria	2.1	Describe the relevant authorities condemned markings.
	2.2	Describe the testing procedure to ensure the pole is safe to climb.
Learning outcome 3		Determine the correct use of aerial safety equipment.
Assessment criteria	3.1	Identify the correct safety equipment for the job.
	3.2	Describe the correct procedure in securing the ladder.
	3.3	Describe the correct use of safety belt.
	3.4	Describe the correct procedure in using and tying off the safety line.
Learning outcome 4		Determine the correct procedure to applying pole top rescue.
Assessment criteria	4.1	State the personnel safety requirements prior to attempting pole top rescue.
	4.2	Describe the correct procedure for performing a safe pole top rescue.
	4.3	Demonstrate the correct procedure to performing first aid.
	4.4	Demonstrate a pole top rescue
Learning outcome 5		Locate and describe the different aerial construction methods and list the relevant rules and regulations relevant to each type.
Assessment criteria	5.1	Describe the purpose of the different types of aerial construction.
	5.2	Identify the difference between power, telephony, cable TV or other services.

- 5.3 Identify the different pole types including wood, concrete and steel.
- 5.4 Identify the relevant rules and or regulations that impact on aerial construction.
- 5.5 Describe the relevant safety precautions and hazards whilst working near other services.
- 5.6 Using cable plans to identify cable details such as:
 - Cable size
 - Cable types
 - Existing and new joints
 - Types of joints
 - Terminal boxes
 - Terminal box types
 - other possible techniques, services, equipment and devices used in aerial cabling

Learning outcome 6

Joining of an aerial cables

Assessment criteria

- 6.1 Identify cable types used in aerial cabling
- 6.2 Identify techniques for joining a range of aerial cables
- 6.2 Demonstrate the joining of a variety of representative aerial cables

8. Delivery of the module

Delivery strategy

Delivery strategies must be suitable for learning both theoretical and practical aspects described in the module purpose. It is considered that the most effective method to achieve this is by integration of theory and practice where students learn by experimentation, research and reports. It is recommended that learning and assessment be facilitated in a holistic manner that may require learning outcome sequence other than that indicated in the module.

Resource requirements

Resources should be sufficient for students to carry out learning activities on an individual basis. This will require a range of support equipment and reference material.

Students will require access to the following reference material or their replacements:

- TS008
- TS009
- AS/NZS 1668

- AS 1670
- AS1851
- AS 2220
- AS/NZS 3000 series and related sub-standards
- Telecommunications Act 1997 - overview
- The Building Code of Australia Volumes 1-3
- Australian Communications Authority Cabling Provider Rules, Benchmark Cabler Competency Requirements - 2000
- Communication Cabling Manual BCL Package
- Certified Components List (CCL) or replacement
- Labelling

Specialised facilities and equipment required by the training provider include:

- Access to a range of industrial sites that can assist in providing experiential learning associated with aerial work.

In addition learners will require access to:

- Standard workshops and equipment should be available for practical exercises
- Approved telecommunication tools
- Approved safety equipment

Occupational health and safety requirements

A safe and healthy environment will be provided for learners and teachers as well as the particular safety procedures followed as part of the learning / teaching activity and content.