

1. Module details

Module name

Workshop Practices

Suggested structured learning time

A learner possessing the prerequisite skills and knowledge should achieve the module purpose in 36 to 40 hours.

Module code

NE175.1

Discipline code

0704120

2. Module purpose

This module provides Learners with knowledge and skills in the use of hand and power tools in installing, maintaining and repairing electrical or electronic or instrumentation systems and equipment.

Learners will learn the basic skills of tool selection and use, fabrication techniques and mechanical fitting as applied to electrical, electronic or instrumentation work.

A major focus of the module is to develop safe work practices in the use of tools.

3. Learning pathway

Intended use in the structured learning program

This module is intended to supplement exposure to electrical/electronic work. In particular it applies the development of hand skill and tool use.

Therefore before undertaking this module a Learner should have a clear understanding of fundamental principles for safety and how they are apply.

Recommended prerequisites

For the most effective learning and safety this module should be undertaken only after module NBB002 Occupational Health and Safety has been completed.

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 EEQSBA.

This module supports the development of essential capabilities required for electrical licensing.

5. Content

1. Identification and application of tools for:

- marking out a measuring
- cutting
- shaping
- drilling
- threading
- tapping
- finishing
- dismantling/assembling

2. Tool use

- hazards
- safety procedures
- techniques

3. Fabrication

- materials
- types
- applications
- techniques
- marking out
- cutting
- bending
- drilling/punching
- joining
- cutting mitres

4. Fitting techniques

- dismantling
- assembling

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	Normally learning and assessment will take place in a formal learning environment.
7. Learning outcome details	
Learning outcome 1	Identify and state the applications of hand and power tools.
Assessment criteria	<ul style="list-style-type: none">1.1 Identify hand and power tools by their common names.1.2 State typical applications of a variety of hand and power tools used in the electrical or electronic or instrumentation work.
Learning outcome 2	Demonstrate the safe use of hand and power tools used in installing, maintaining and repairing electrical or electronic or instrumentation systems and equipment.
Assessment criteria	<ul style="list-style-type: none">2.1 Demonstrate the correct procedure for using a range of tools for cutting, shaping, drilling, threading, tapping, and finishing metallic and non-metallic components.2.2 Demonstrate the correct procedures for accurately measuring and marking out.
Learning outcome 3	Use fabrication techniques to construct, repair and facilitate the installation of electrical or electronic or instrumentation systems and components.
Assessment criteria	<ul style="list-style-type: none">3.1 List the types of fabrication materials used in the electrical or electronic or instrumentation work.3.2 State an application of various types of fabrication materials.3.3 State the common name for a variety of sheet materials.

	<p>3.4 Carry out tasks involving</p> <ul style="list-style-type: none">• marking out• cutting• bending• drilling and/or cutting and/or punching holes.• joining• cutting mitred joints.
Learning outcome 4	Use fitting techniques to dismantle and assemble electrical or electronic or instrumentation equipment.
Assessment criteria	<p>4.1 Demonstrate procedures for the dismantling of electrical or electronic or instrumentation equipment.</p> <p>4.2 Describe the procedures for ensuring the safe treatment of dismantled components.</p> <p>4.3 Demonstrate techniques for assembly of electrical or electronic or instrumentation equipment.</p>
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 a learning outcome sequence other than that indicated in the module.
Resource requirements	Workshop facilities and equipment, hand tools and power tools. Resources should be sufficient for learners to carry out learning activities on an individual basis.

Useful references include:

ATP Basic training manuals - electrical trades

16.2 Materials and benchwork

16.3 Hand tools

16.4 Mechanical measuring

16.5 Off-hand grinding

16.6 Drilling, tapping and thread cutting

16.9 Tools and equipment Part 1

16.10 Tools and equipment Part 2

Where this module is used in an approved Traineeship or Apprenticeship program learners should be advised to obtain, where available, respective EEQSBA¹ **User Guides** (*these outline in detail what training and work performance the Learner is required to undertake for the program.*)

**Occupational health
and safety requirements**

A safe and healthy environment will be provided for learners and teachers. Safety procedures for the particular learning facilities shall be followed as part of the learning / teaching activity and assessment.

¹ EEQSBA – ElectroComms and EnergyUtilities Qualifications Standards Body of Australia Ltd.