

**1. Module details****Module name****Rigging (Basic)****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**

NUE236

**Discipline code**

0703130

**2. Module purpose**

This module is designed to provide trainees with knowledge and skills in using power winches and capstans and associated equipment used for rigging. Trainees will also learn to plan and prepare, perform and demolish basic rigging work.

**3. Prerequisites**

NBB002 Occupational Health & Safety.

**4. Relationship to competency standards**

This module addresses Units 2.1, 2.3, 2.8-2.11, 2.13, 3.1, 3.2, 3.4-3.8, 3.13, 3.15 and 3.16 of the E.S.I. National Competency Standards for Overhead Line Work and Cable Jointing and Unit 4.3 of the Electrical Contracting Industry Award Standard (Volume 8).

**5. Content****Planning**

Job method

Site plans, drawings, specification

Hazard control

Statutory requirements

Access/egress load and dimensions

Job method

Check instructions

**Identify**

Repair

Steel wire ropes

Natural ropes

Fibre ropes

Chains and fittings

Winches

Capstans

Australian standards, codes of practice and advisory/compliance standards

Safe working loads

**Transport of equipment**

Sequence of loading

Load arrangements

	<p><b>Site preparation</b>                  Isolation                  Safety precautions                  Assembly of equipment</p> <p><b>Loads</b>                  Load connection and movement                  Signalling                  Operate winches                  Rigging gears                  Safety nets and lines</p> <p><b>Place and secure loads</b>                  Fixing and anchoring loads                  Temporary securing                  Design specifications</p> <p><b>Load stability</b>                  Load movement                  Factors affecting stability                  Completion of work</p> <p><b>Dismantling</b>                  Safe dismantling                  Remove equipment on site</p>
<b>6. Assessment strategy</b>	
<b>Assessment methods</b>	Short answer questions (written, oral or graphic or computer based), multiple choice questions, oral questions, observations, assignments, other recognised methods. Suitable practical exercises which assess the skills required of each learning outcome.
<b>Conditions of assessment</b>	Theory room for written tests together with practical field observation.
<b>7. Learning outcome details</b>	
<b>Learning outcome 1</b>	<p><b>Plan for work involving power winches, capstans and rigging.</b></p>
<b>Assessment criteria</b>	1.1 Develop job method and sequence. 1.2 Interpret site plans, drawings and work specifications. 1.3 Identify, assess and control hazards associated with working with power winches, capstans and rigging.

**Learning outcome 2**

**Assessment criteria**

- 1.4 State statutory requirements for operating cranes, hoists and winches.
- 1.5 Ensure safe access/egress.
- 1.6 Determine the mass and dimensions of loads.
- 1.7 Check instructions from load designer.

**Select, inspect and, if necessary, repair material and tools.**

- 2.1 Identify the types, construction, rating and usage of steel wire ropes and slings.
- 2.2 Inspect appropriate rigging equipment, materials and tools.
- 2.3 Select, inspect and, if necessary, repair or dispose of natural and synthetic fibre ropes and chains and fittings.
- 2.4 Inspect and maintain a winch and capstan.
- 2.5 Develop any special equipment required for the job.
- 2.6 Select and assemble sets of lifting gear to Australian Standards and codes of practice/compliance and advisory standards.
- 2.7 Calculate safe working loads and loadings on natural synthetic fibre ropes, chains and fittings, tackle components and anchor points.

**Learning outcome 3**

**Assessment criteria**

**Co-ordinate transport of equipment to site as necessary.**

- 3.1 Sequence loading of equipment and tooling on transport suitable for job method.
- 3.2 Arrange load to avoid injury or damage.

**Learning outcome 4**

**Assessment criteria**

- Prepare site for rigging work.
- 4.1 Isolate site using barriers as necessary.
  - 4.2 Display appropriate safety precautions including signage.
  - 4.3 Assemble and erect power winches and capstans.

**Learning outcome 5**

**Assessment criteria**

**Move and manage loads.**

- 5.1 Inspect load connections and load movement equipment.
- 5.2 Ensure equipment is connected to the load and meets relevant Australian standards and manufacturer's instructions.
- 5.3 Use appropriate communication and signalling methods to co-ordinate the load in line with Australian standards.
- 5.4 Move load and operate winches with due regard for load centre of gravity, access, obstacles, wind conditions and final resting position.
- 5.5 Use rigging gear in accordance with codes of practice/compliance and advisory standards.
- 5.6 Erect safety nets and lines as necessary.

**Learning outcome 6**

**Assessment criteria**

**Place and secure loads.**

- 6.1 Use appropriate materials for fixing and anchoring the load.
- 6.2 Fit temporary securing where there is a high risk and differing weather conditions.
- 6.3 Ensure design specifications are followed during the placement and securing of the load.

**Learning outcome 7**

**Assessment criteria**

**Ensure continuing stability of loads.**

- 7.1 Ensure load stability is kept during load movement.
- 7.2 Identify and assess local conditions which may affect the continuing stability and implement suitable control measures.
- 7.3 Ensure the load and/or structure is completed to manufacturer's and designer's specifications to appropriate Australian Standards.

**Learning outcome 8**

**Assessment criteria**

**Dismantle and move equipment from site.**

- 8.1 Dismantle all related equipment in a safe and orderly manner.
- 8.2 Take appropriate steps to dismantle and remove equipment brought onsite during site preparation.

**8. Delivery of the module**

**Delivery strategy**

Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose. 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.

**Resource requirements**

Relevant Australian standards.  
Enterprise work manuals and standing instructions, diagrams and layouts.  
Relevant manufacturers' manuals.  
All necessary equipment required for rigging/slinging.

**Occupational health and safety requirements**

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.