

**1. Module details****Module name****Mains Layout: Pole Replacement and Service Projects****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**

NUE230

**Discipline code**

0703130

**2. Module purpose**

This module provides the learner with a general introduction to overhead mains design, points of attachment, servicing and site layout.

**3. Prerequisites**

NUE229 Mains Layout: Data Acquisition.

**4. Relationship to competency standards**

This module addresses Units 4.2 and 4.3 of the E.S.I. National Competency Standards for Overhead Line Work and Cable Jointing.

**5. Content****Mains design overview**

points of attachment  
 services  
 site layout  
 measuring distances  
 pole replacement  
 conditions of supply

**Footpath alignments**

poles  
 lighting columns

**Site data acquisition**

measurement  
 recording

**Pole replacement design**

typographical features  
 location of other services  
 inconvenience to public  
 servicing arrangements  
 statutory requirements  
 truncated corners  
 tee offs  
 intersections  
 pole strength requirements  
 soil/foundation capability

optimal pole size  
ground clearance  
service clearances  
tip loading sinking depth

**Service point of attachment**  
overhead servicing principles  
service cables and attachment  
service erection design data  
points of attachment  
capital contributions  
relevant charges and costs

## 6. Assessment strategy

### Assessment methods

Short answer questions (written, oral or graphic or computer based).  
Suitable practical exercises which assess the skills required of each learning outcome.

### Conditions of assessment

Theory room for written tests together with practical field observation.  
Learners must demonstrate competence in all learning outcomes to the standard described by the assessment criteria and perform all activities in a safe manner in accordance with State Occupational Health and Safety Acts and Regulations, Codes of Practice and Work Procedures when applicable

## 7. Learning outcome details

### Learning outcome 1

**State standard Local Authority footpath alignments for poles.**

### Assessment criteria

1.1 State the standard Local Authority footpath alignments requirements for standard and non-standard poles to industry standard accuracy.

### Learning outcome 2

**Measure and record data at a site for a simple overhead design project.**

### Assessment criteria

2.1 Measure and record distances pertaining to an overhead mains layout project to industry standard accuracy.

<b>Learning outcome 3</b>	<b>Prepare a design for a pole replacement project.</b>
<b>Assessment criteria</b>	<p>3.1 Select pole positions based on servicing arrangements, other authority services, topographical features, statutory requirements and other regulations and public considerations to industry standards.</p> <p>3.2 Select optimum pole sizes based on regulations, codes of practice and work practices to industry standards.</p>
<b>Learning outcome 4</b>	<b>Nominate a service point of attachment, prepare a design for an overhead low voltage service and calculate any relevant charges.</b>
<b>Assessment criteria</b>	<p>4.1 Nominate a service point of attachment as per regulations, codes of practice and work instructions to industry standards.</p> <p>4.2 Prepare a design layout for an overhead low voltage service as per regulations, codes of practice and work instructions to industry standards.</p> <p>4.3 Calculate and record charges if applicable to industry standard accuracy.</p>
<b>8. Delivery of the module</b>	
<b>Delivery strategy</b>	<p>Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose.</p> <p>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.</p>
<b>Resource requirements</b>	<p>Enterprise construction manuals            Relevant Australian standards            Enterprise work manuals and standing instructions            Acts and Regulations</p>
<b>Occupational health and safety requirements</b>	<p>Learners 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.</p>