

1. Module details**Module name****Mains Layout: Data Acquisition****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

NUE229

Discipline code

0703130

2. Module purpose

This module introduces the learner to the mains design environment and enables them to perform basic tasks to assist senior staff. The module provides a general introduction to mains design records, documents and information support systems and the skills necessary to prepare engineering sketches and simple drawings.

3. Prerequisites

Nil.

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**Network overview**

components
function
parameters
Acts and regulations

Maps and diagrams

types
purpose
data extraction

Works plans

layout
interpretation
data extraction

Engineering sketches and drawings

standard symbols
procedures

Design file compilation

use of computer
construction manuals
design manuals

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 where applicable.

7. Learning outcome details

Learning outcome 1

State and identify the main components of the distribution network, their function and the parameters that need to be determined by mains design.

Assessment criteria

1.1 Identify the main components of a distribution network and state them to industry standard accuracy.

1.2 State the parameters and function of the main components that relate to mains design to industry standard accuracy.

Learning outcome 2

State and identify the types and purposes of maps and diagrams used in mains design and extract simple information from these.

Assessment criteria

2.1 Identify the types and purposes of maps and diagrams used in mains design.

2.2 Extract simple data from maps and diagrams to industry standard accuracy.

Learning outcome 3

State and identify the parts of a Works Plan (or Construction Drawing) and extract information from a Works Plan (or Construction Drawing).

Assessment criteria

3.1 Identify and state the relevant parts of a Works Plan (or Construction Drawing) used in mains layout to industry standard accuracy.

3.2 Extract simple data from these plans and drawings to industry standard accuracy.

Learning outcome 4	Prepare hand drawn engineering sketches and simple drawings.
Assessment criteria	4.1 Generate engineering sketches and drawings by hand which are directly related to mains layout to industry standard accuracy.
Learning outcome 5	Compile a design file, locate information relevant to mains design in manuals and identify relevant computer subsystems that provide information used in mains design.
Assessment criteria	5.1 Locate information relevant to mains layout from manuals, specifications, standards, etc, to industry standard accuracy. 5.2 Identify computer subsystems that can provide relevant data used in mains design. 5.3 Compile a design file to industry standard accuracy.
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	Enterprise construction manuals Relevant Australian standards Enterprise work manuals and standard instructions Relevant manufacturers' equipment manuals Computer system and software Acts and Regulations
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.