

1. Module details

Module name

Diagnose and rectify faults in apparatus and associated complex circuits– *Instrumentation work performance*

Module duration

The time taken to complete this module will vary depending on the opportunities in the work place for student's to develop their skills and the method used to obtain evidence of competent performance. Where evidence is obtained through formalised assessment event(s) under simulated conditions it would normally take a student 4 hours to successfully complete the module.

Module code

NEWP502D

Discipline code

0703115 Electrical Instrumentation & Measurement

2. Module purpose

This module provides methods and criteria for gathering evidence that shows a person has achieved the levels of performance specified in Unit NES502dA Diagnose and rectify faults in apparatus and associated complex circuits – Instrumentation.

3. Prerequisites

This module shall be undertaken in conjunction with modules that provide the knowledge and skills underpinning performance.

4. Relationship to competency standards

This module supports Unit NES502dA Diagnose and rectify faults in apparatus and associated complex circuits – Instrumentation of the Electrotechnology Competency Standards.

5. Assessment strategy

Assessment methods

Evidence of competent performance may be gathered from real work activities, which are recorded by the use of work reports, logbooks, profiles or portfolios. The student's immediate supervisor shall confirm the accuracy of the evidence the student presents in this way. The supervisor must be competent in the area.

Alternatively, evidence may be obtained through formalised assessment events that simulate relevant work activities.

Conditions of assessment

Evidence of competent performance can be gathered from the workplace or a simulated work environment. A simulated environment would necessarily include equipment and wiring systems similar to those encountered in a real workplace. As well as the generic aspects of competency, assessment should take into account variations between particular industry sectors and different enterprises. For example equipment used in process industry will be different in some respects to that used in mining.

Assessment criteria

In judging work performance it is essential that evidence regarding the following aspects of competency is considered.

- Performance is autonomous and to requirements and **occurs on at least 3 occasions for each of the following elements:**
 - Plan and prepare to diagnose and rectify faults
 - Diagnose and rectify faults of complex instrumentation circuits
 - Inspect and notify of completion of work
- and **at least 2 of the following complex instrumentation circuits:**
 - analogue process measuring such as temperature, flow, level, pressure, weight, density, consistency and viscosity
 - analogue control such as discrete and nest mounted
 - microprocessor control such as programmable logic and distributive
 - microprocessor interface such as digital-analogue and analogue-digital
- Applying **techniques, procedures, information and resources relevant** to performance.

Judgement should be made on evidence gathered from a number of events and over a period showing the development of competent work performance.

Resource requirements

Resources should be sufficient for participants to carry out activities, from which evidence may be gathered, on an individual basis. This will include access to tools, equipment, standards and other documents that are necessary to perform the activities required.

Occupational health and safety requirements

A safe and healthy environment will be provided for participants and assessors as well as safety procedure with regard to assessment activity.