



## ADVANCED DIPLOMA OF ELECTRICAL AND INSTRUMENTATION (E&I) ENGINEERING FOR OIL AND GAS FACILITIES

### MODULE DETAILS

#### MODULE 7: Cables and Wires – Maintenance and Installation Practice

Nominal duration: 2 weeks (16 hours total time commitment)

This time commitment includes the preparation reading, attendance at each webinar (1 hour plus 15-30 minutes for discussion), and the time necessary to complete the assignments and further study.

### MODULE PURPOSE

Faults in underground cable may cause loss of supply to customers and loss of revenue for suppliers so it is imperative that the fault location process is efficient and accurate to minimize excavation time, which results in reducing inconvenience to all concerned. For fault locating to be efficient and accurate, technical staff need to have expert knowledge accompanied with experience in order to attain service reliability. This module is designed to ensure that those responsible for the selection, laying, operation, maintenance and monitoring of power cables understand the technical issues involved and comply with relevant specifications and requirements.

### PRE-REQUISITE MODULES/UNIT(S)

Module 1: Fundamentals of Electrical Engineering

### ASSESSMENT STRATEGY

To evaluate the achievement of the learning outcomes; written assignments, group projects and practical exercises are set.

### SUMMARY OF LEARNING OUTCOMES

1. Examine and discuss cable construction and selection [7.1]
2. Outline procedures for cable installation, jointing and termination [7.2]

### Learning Outcome 1

**Examine and discuss cable construction and selection [7.1]**

### Assessment Criteria

1. Describe cable construction in terms of components and processes [7.1.1]
2. Select appropriate cables for given applications and calculate the conductor size [7.1.2]



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<b>Learning Outcome 2</b>	<b>Outline procedures for cable installation, jointing and termination</b>	<b>[7.2]</b>
<b>Assessment Criteria</b>	1. Describe the processes involved in cable installation	[7.2.1]
	2. Discuss the theory and practice of cable jointing and termination	[7.2.2]

**Delivery Mode**

A combination of asynchronous and synchronous e-learning delivery comprising a judicious mix of interactive online web conferencing, simulation (virtual labs) software, remote online labs, online videos, Power Points, notes, reading and study materials (in pdf, html and word format) accessed through the Moodle Learning Management System (LMS).