



## ADVANCED DIPLOMA OF MECHANICAL ENGINEERING TECHNOLOGY

### MODULE DETAILS

#### Module 13: Mechanical Seals

Nominal duration: 2 weeks (24 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

Faced with the bewildering task of selecting the correct seal type and materials of construction for a given application, it's no wonder that many end-users leave the job to others. After studying this module, students will have the knowledge and confidence to select correct seal types, analyze failed seals, determine the cause/s of failure and propose practical, and take remedial action. Thus, with simple modifications, students can extend seal life and reduce or eliminate causes of premature seal failure.

The module commences with a solid review of the fundamentals and basic principles, and looks at seal classification and design. Special seal types are examined and the materials used to construct seals ranging from elastomeric materials to cemented carbides are examined.

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

NONE

### 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 seals

#### Learning Outcome 1

#### Examine and discuss seals

#### Assessment criteria

- 1.1 Examine and discuss the basic principles of seals
- 1.2 Discuss seal design and classification
- 1.3 Compare seal materials
- 1.4 Examine and discuss the handling and installation of seals
- 1.5 Discuss seal failures
- 1.6 Select appropriate seals for given applications
- 1.7 Describe methods to maximize seal life



## **ADVANCED DIPLOMA OF MECHANICAL ENGINEERING TECHNOLOGY**

### **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, PowerPoint slides, notes, reading and study materials (in PDF, HTML and Word format) accessed through the Moodle Learning Management System (LMS).