



**ADVANCED DIPLOMA OF
MECHANICAL ENGINEERING TECHNOLOGY**

MODULE DETAILS

Module 8: Lubrication Engineering

Nominal duration: 3 weeks (36 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

With a bewildering selection of thousands of lubricant types, base stocks, additive packages and viscosity grades to choose, it is difficult to decide which one is right for a specific machine. Modern lubrication programs have dramatically changed from the old methods that have been passed down through the generations. If someone isn't using the right lubricant at the right time, in the right place, and in the right quantity, more harm than good could be done and it could cost a company thousands of dollars. This module collates the strategic knowledge of many practising professionals in this area and suggests the best practice to work with. This module covers lubricant management, design applications, operations, maintenance and management issues and provides up-to-date information and best practice in dealing with the subject of lubrication.

**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 the basics of Tribology
2. Describe the properties of lubricants and lubricant additives
3. Examine and discuss lubricant stability and storage issues

Learning Outcome 1

Examine and discuss the basics of Tribology

Assessment Criteria

- 1.1 Examine the concepts of friction, heat and wear
- 1.2 Distinguish between the various types of lubrication
- 1.3 Predict lubricant characteristics under different load, temperature and viscosity conditions
- 1.4 Identify appropriate lubricants for different applications



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Learning Outcome 2 **Describe the properties of lubricants and lubricant additives**

Assessment Criteria

2.1 Describe the various lubricant properties

2.2 Discuss the use of lubricant additives

Learning Outcome 3 **Examine and discuss lubricant stability and storage issues**

Assessment Criteria

3.1 Examine the root causes of lubricant failures and how they can be controlled

3.2 Examine and discuss lubricant storage issues

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).