



Mechanical Engineering

Mechanical Maintenance Essentials

Practical Skills and Techniques

Course Introduction

This training program is designed to provide delegates with the basic introductory level skills around mechanical maintenance techniques and basic engineering and fitting techniques while at the same time learning the theory behind them. The program highlights topics such as basic fault finding techniques, health and safety and control of substances hazardous to health regulations as well and an introduction to how maintenance organisations are organised and operated.

Target Audience

- Maintenance Technicians & Mechanics – Performing repairs, troubleshooting, and preventive maintenance.
- Engineers (Mechanical, Industrial, etc.) – Overseeing and optimizing maintenance processes.
- Operators & Machine Attendants – Ensuring equipment reliability and efficiency.
- Supervisors & Maintenance Managers – Leading maintenance teams and strategies.
- Apprentices & Trainees – Developing foundational mechanical maintenance skills.

Learning Objectives

- Safely undertake a range of mechanical tasks in an industrial environment
- Identify and apply the principles and practices of workshop safety
- Use and understand mechanical terminology
- Identify engineering fixing and locking devices
- Select and identify screw threads (size & type)

Course Outline

• 01 DAY ONE

Working regulations

- Mechanical maintenance principles
- Drive systems
- Keys and keyways
- Bench work (produce a key)
- Bearing removal and fitting

• 02 DAY TWO

Dismantling techniques

- Practical - dismantling pumps and motors
- Gears and clutches (theory and practical)
- Couplings (theory and practical)
- Fixings (theory and practical – split pins / lock wire)
- Fault location and diagnostics.
- Bearings: Recognise defects
- Remove a range of plain, ball and roller bearings
- Select and correctly fit a range of bearings

• 03 DAY THREE

Basic principles of Hydraulics Systems/ Mechanical devices Removing fitting and adjusting

- Belt and Chain drive mechanisms
- Shafts and couplings including alignment
- Drive Keys
- Clutches and gear systems.

• 04 DAY FOUR

Demonstration and practice checking, adjusting, maintaining and rectifying the following:

- Gears and Gearboxes, Speed calculations

- Shafts and couplings including the fitting and extraction of keys
- Clutches: Mechanical and Pneumatic
- Belt, chain and sprocket drives
- Plain, ball and roller bearings: removal and replacement
- Brakes, Linkages, Cams
- Variable speed drives
- Conveyors, including guarding requirements
- Pumps

• **05 DAY FIVE**

Demonstration and practice of the methods for performing routine adjustments by:

- Alignment techniques and shimming
- Lubrication
- Tensioning

Practical application.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 12, 2025	May 16, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Sept. 29, 2025	Oct. 3, 2025	5 days	4950.00 \$	England - London
Dec. 29, 2025	Jan. 2, 2026	5 days	4250.00 \$	UAE - Dubai