

# MECHANICAL COURSES

## CONDITION BASED MONITORING and MAINTENANCE (M49A)

**OBJECTIVE:**

This course provides knowledge and skills in condition based monitoring and maintenance analysis.

**WHO SHOULD ATTEND?**

This course is recommended for plant engineers & senior technicians who are involved in the field of maintenance and monitoring.

**COURSE CONTENT:**

- Introduction to Condition Monitoring
- Shock and Vibration
- ISO Standard/ISO 10816-4 for Gas Turbine Driven Sets
- Implementation of a Predictive Maintenance System
- Vibration Transducers, Eddy Current Instrumentation and Oscillator
- Vibration Velocity Sensor and Fault Analysis
- Selective Envelope Detection (SED)
- Outer race slipping and fluid film Bearing
- Orbit Analysis and Unbalance Case Study
- Cepstrum Analysis & Rolling Element Bearing Case Study

**Duration: 5 Days**

Date:	Venue:	Cost:
Jan 5 – 9	Dammam	SR6,000
Jun 7 – 11	Dammam	SR6,000

## CNC MACHINE TOOLS (M79A)

**OBJECTIVE:**

This program is an introduction to common CNC machining centers, features of computer numerically controlled machine centers and types of CNC programming.

**WHO SHOULD ATTEND?**

This program is applicable to all those who work in the field of metal machining and CNC operation and programming.

**COURSE CONTENT:**

- Purpose of the Basic Components of CNC Machining Center
- Part Program and Identify and Explain the Components which make it up
- Sequence Blocks, Block Numbers and their Numbering Method
- X, Y, Z, and B axis address words.
- Tool Length Offsets and Why and How they are Applied
- G43, G44 and G49 codes affect tool offset values
- Computer Aided Part Programming
- Applications and Case Studies

**Duration: 5 Days**

Date:	Venue:	Cost:
Jun 14 – 18	Dammam	SR6,000
Dec 27 – 31	Dammam	SR6,000