

# Vibration Analysis

## Z MEC-16

### Duration :

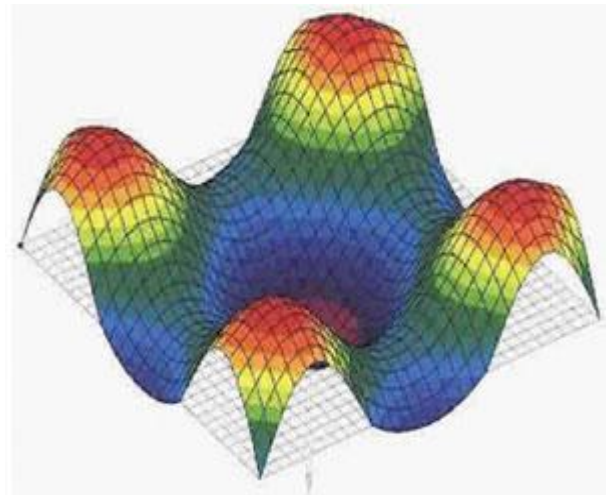
Three Days 18 Hours

### Who Should Attend :

Mechanical Engineers

### Language :

Arabic, English



### Overview

The objective of all of the Vibration courses is to prepare you to be a better analyst. Courses will enable you to gain understanding of vibration principles and techniques and add to your practical knowledge of machines. With these tools, you will be better able to think through vibration problems. Vibration courses are designed to provide you with theory, techniques, and procedures as well as practical case histories that illustrate ways to analyze various types of equipment. In-class demonstrations and workshops will help you learn the methods used to solve vibration problems

### Topics

- Introduction
- Simple Harmonic Motion
  - Single degree free motion
  - Frequency
  - Amplitude
  - Damping
- Forced vibration
  - Resonance
  - Phase shift
  - Forced vibration with damping
- Fourier analysis
  - Making a spectrum
- Driving forces
  - Balance
  - Alignment
  - Excitation of rotating resonance
  - Oil whirl
  - Gear Mech
  - Antifriction bearing damage
  - Structural Resonance

- Aerodynamic Excitation
- Transducer selection and Mounting
  - Units of vibration
  - Types of transducers
  - Transducer Characteristics
  - Transducer selection
  - Transducer Mounting
- Basic fault detection and diagnosis
- Computerized fault detection and trend analysis
- Applications note
  - Machinery protection system for various types o rotating equipments
- Preventive maintenance in rotating machinery
- using vibration analysis
- Single plane balancing
- Field balancing