



## VIBRATION ANALYSIS

Training in basic vibrations is vital to understand one of the primary failure modes in all rotating machinery. Knowledge of the causes and cures of mechanical vibrations is vital to all personnel that come in contact with rotating machinery. Specific courses are tailored to the interest and depth requested by the participants.

### TRAINING TOPICS

- Basic Concepts, the Language of Vibrations, Basic Equations
- Single Degree of Freedom Systems
- Multiple Degree of Freedom Systems
- Free and Forced Vibration
- Transient Vibration
- Analytical and Experimental Methods

### BASIC LEVEL COURSE OBJECTIVES

- Be conversant with terms such as free and forced vibration, resonance, stiffness, damping, inertia.
- Select, install, and operate basic vibration instrumentation.
- Review and understand vibration data in both the time and frequency domain.
- Understand basic machine faults and means of diagnosis.
- Be familiar with vibration standards and limits for a variety of machines.
- Be able to troubleshoot basic vibration problems.

### ADVANCED LEVEL COURSE OBJECTIVES

- Perform modal analysis, review operating deflected shape plots.
- Troubleshoot complex vibration problems.

### WHO SHOULD ATTEND

Courses in basic vibrations are intended to supplement limited exposure to vibrations in most undergraduate engineering curriculums. These courses are also intended to provide training in fundamentals for vibration technicians, mechanics, and plant operators