Machinery Diagnostics

This three-day course is designed for plant personnel responsible for the maintenance and repair of vibration problems in industrial equipment. The primary focus of this course is the formats for vibration plotting and malfunction identification. Machinery in industrial applications is required to perform at higher speeds and pressures. For this very reason, industrial facilities
are closely monitoring their equipment vibration problems.

I. Machinery Diagnostic - Vibration Plot Formats

· Machines, Maintenance, and Monitoring
· Basic Principles of Vibration Monitoring
· Concepts of Statics, Kinematics, and Dynamics
· Basic Vibration Theory
· Transducers
· Data Acquisition and Signal Processing
· Machinery Fault Diagnosis and Discussion

II. Machinery Diagnostic - Malfunction Identification

· Experimental Protocol
· Transducer Calibration and Mounting
· Baseline Signature and Data Collection
· MFS Reconfiguration for Various Fault Studies
· Data Collection for Various Faults (Unbalance, Eccentricity, Bent Shaft, Looseness, Misalignment, Bearings, Resonance/Critical Speed, Gearbox, Belt Drives, Under Different Speeds and Loading)
· Comparison of Fault Signatures to Baseline to Determine Cause and Effect
· Validate Common Fault Guidelines
· Discussion Concerning Troubleshooting and Correcting Real Life Problems