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[www.reliabilityassurance.com](http://www.reliabilityassurance.com)

# Entry Level Vibration Training

*ISO Category I / ASNT Level I*

## Course Description

*The Vibration Technician "Entry Level" course is intended for personnel who are new to vibration monitoring and analysis, and for personnel who have limited vibration analysis experience. The course focusses on periodic, single channel data collection and analysis for condition based maintenance programmes. A foundation is established for in-depth understanding of spectrum and waveform relationships.*

## Four Unique Benefits:

- 1 > When you register for this course, you will receive the iLearnVibration CD and pre-study guide. *Prepare and you will succeed!*
- 2 > Our course utilizes modern slides, animations, innovative simulations, and live case studies - all delivered by certified instructors.
- 3 > You can take the optional certification exam. The training course and exam follows the ISO 18436.2 Category I standard, and the ASNT SNT-TC-1A Level I standard.
- 4 > You take away the award winning iLearnVibration vibration training CD, a course book, reference guide and mouse pad.

## Course Summary

*Duration: four days & exam  
Prerequisites: none*

### Maintenance practices

- Breakdown, preventive, predictive and RCM

### Condition monitoring

- Review of condition monitoring technologies: Vibration, oil, wear particle, infrared, acoustic emission, electric motor testing

### Principles of vibration

- Motion, r.m.s./peak/peak-peak, frequency/period
- Displacement, velocity and acceleration
- Units and unit conversion
- Waveform and spectrum (FFT)
- Natural frequencies and generated frequencies
- Basic forcing frequency calculations

### Data acquisition

- Instrumentation
- Transducers and transducer mounting
- Measurement point naming conventions
- Routes/surveys: Loading and unloading the route
- Data collection
  - Following a route
  - Repeatable data collection
  - Test procedures
  - Observations: best utilizing your time in the field
  - Recognizing bad data

### Equipment knowledge

- Rotating equipment types and applications
- Rolling element bearings and journal bearings

- Review of failure modes and appropriate use of condition monitoring technologies

### Basic vibration analysis

- Overall level measurements
- Spectrum analysis:
  - Harmonics, sidebands and the analysis process
  - Alarm limits, trending and exception reports
- Fault diagnosis:
  - Imbalance, misalignment, looseness, eccentricity, resonance
  - Defects associated with bearings, gears, belts, electric motors