Upcoming Training Class:

Vibration Analysis
& Predictive Maintenance Techniques

Hosted by Tulsa Tech

May 19 - 22, 8 am - 5 pm

Tulsa Tech Training Center
3638 S. Memorial Dr., Tulsa OK
(918) 828-5000 | tulsatech.edu

In Partnership With

Analysis I Seminar Agenda (ISO Category II)

Introduction To Vibration Analysis And Predictive Maintenance (Recommended Full-Time PDM Vibration Experience: 6 Months Minimum)

1. Seminar Overview

2. What is Vibration and How Can it be Used to Evaluate Machinery Condition?

» What is Frequency and How Does it Relate to a Time Waveform?
» What are Vibration Displacement, Velocity, and Acceleration?
» How to Convert From One Vibration Parameter to Another (in/sec to g, etc.)
» What is Phase?
» What is a Vibration Spectrum (Also Called an "FFT" or "Signature")?
» Effect on Frequency Accuracy of Number of FFT Lines
» Difference Between RMS, Peak, and Peak-to-Peak Amplitude and its Significance
» When to Use Displacement, Velocity, or Acceleration
» How Much is Too Much Vibration?

3. Overview of the Strengths and Weaknesses of Typical Vibration Instruments

4. Overview of Various Vibration Transducers and Their Optimum Applications

5. Role of High Frequency Enveloping (HFE) and HFD in Detecting & Tracking Certain Faults

» HFE includes the following:
- Acceleration Enveloping
- Amplitude Demodulation
- PeakVue
- Shock Pulse
- Spike Energy

6. Introduction to Vibration Signature Analysis and How it is Used to Evaluate Machine Operating Condition

» Overview of 5-Page "Illustrated Vibration Diagnostic Chart"
» Mass Unbalance
» Eccentric Rotors
» Bent Shaft
» Misalignment
» Mechanical Looseness, Improper Component Fit, and Soft Foot
» Tracking of Rolling Element Bearing Health Using Vibration Signature Analysis
» Belt Drive Problems
» Electrical Problems in Motors

7. Proven Method for Specifying Spectral Band Alarm Levels and Frequencies Using Today's Predictive Maintenance Software Systems

8. Guidelines for Vibration Acceptance Testing of New and Rebuilt Machines

9. Operating Basics of Common Machines and Recommended Locations to Acquire Vibration Measurements

10. Actual Case Histories of Vibration Diagnostics on Various Machine Types

Registration

Attendees will receive a Certificate of Completion with credit for contact and professional hours. Register at **https://www.opmug.org/events** or contact **chris.groden@tulsatech.edu** to reserve a seat for this session. Registration deadline is **April 10, 2026**.

Course Cost: $1,950 – 25% savings going through OPMUG

Registration will be limited to the first 16 OPMUG members that register. For more information about classes or lodging, please call Chris Groden, Client Services Coordinator at (918) 828-2965.

Course Cancellation Policy

A training class can be cancelled when, less than 75% funded and is less than 30 days from the start of class (training). In this case there will be a 100% fee refund for registered participants. If a registered participant cancels less than 10 days before the start of class (training) they will forfeit 50% of the registration fee.