Machinery Vibration Incorporated *provides Engineering Services to a broad range of industries. We supply Practical Engineering Solutions to improve performance and boost production.*

Machinery Vibration Inc. (MVI) is a small group of engineering specialists focused on troubleshooting rotating machinery, fluid delivery systems, and mechanical component failures.

A valuable off-shoot of this troubleshooting work is MVI's **on-site short courses** that incorporate MVI's highly successful troubleshooting methods, experience and numerous case studies.

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Based in Cleveland, Ohio, the core of MVI's technical staff includes **Dr. Maurice L. Adams, Jr.** and **Dr. Michael L. Adams**.

Contact MVI via email at: **mla5@mvibe.com**

For more information on our other services and courses, please visit our website at:

www.mvibe.com

SHORT COURSE

Vibration Technology and Utilization

Vibration Technology and Utilization is geared towards engineers and technicians who are responsible for plant machinery maintenance and vibration control or are new to the discipline of vibration analysis.

The goals of this course are to provide a familiarity with basic vibration concepts as well as troubleshooting and diagnostic tools.

COURSE CONTENT

Day 1 :

Elementary Vibration Concepts

- What is vibration and what problems does it cause
- Benefits of utilizing vibration measurement and analysis techniques
- Vibration terminology
- Displacement, velocity, and acceleration signals
- Sine-wave motion and the concept of frequency
- Simple single-frequency vibratory system with and without damping
- Orbital-motion vibration in rotors

Day 2 :

Machinery Vibration Signatures

- Multi-frequency vibration signature by adding several single frequency signals
- Reversing this process to understand spectrum analysis
- Vibration measurement sensors and signal processing
- Analog-to-digital conversion of measured vibration signals
- Data processing to get spectrum analysis
- Concept of correlating vibration signatures with machine performance

Day 3 :

Identifying Vibration Problems and Solutions

- Hands-on vibration measurement (Bently Rotor Demonstration Unit)
- Developing a vibration data base for a specific machine configuration
- What unbalance is and the concept of balancing
- Introduction to predictive maintenance
- Instruction, demonstration and hands-on use of vibration measurement systems
- Basic trouble-shooting

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