

# Integrated Condition Monitoring: Vibration Analysis Fundamentals



## Introduction

Allen-Bradley · Rockwell Software

**Rockwell  
Automation**



Partnered with Rockwell Automation, this course is designed for the new user of vibration analysis or predictive maintenance instrumentation or for the individual that desires to become more familiar with the basics of vibration. The relationship between the mechanical condition of machinery and vibration is presented. This background helps show how vibration detection and analysis can be used in a cost effective program to identify machinery problems and schedule repairs to avoid costly machine downtime.

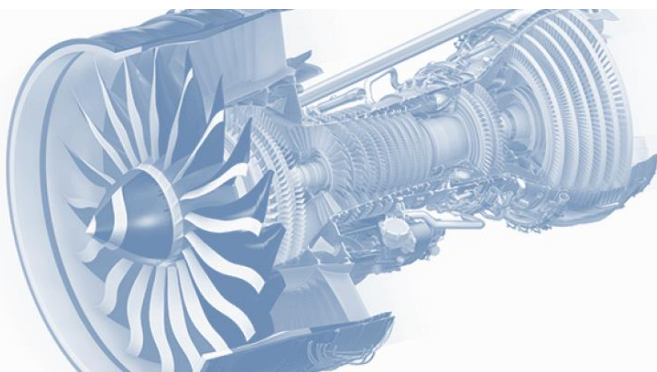
## Hands-On Practice

We provide hands-on practice for candidates as a necessary part of learning and this course offers hands-on opportunities for fundamental vibration measurements. New users of vibration analysis or predictive maintenance system will realize significant benefits from the practical hands-on measurement exercises using modern data collectors, or analysers. Students will gain practical experience by making example measurements using the different units of measure and frequency ranges. A balancing exercise completes the program and allows the students to use the concepts provided in the course to achieve a balance solution.

## Program Designed For

Maintenance supervisors, mechanics, technicians, engineers or analysts involved in the maintenance or operation of plant machinery should attend this course.

This course also covers the prerequisite knowledge needed to attend and be successful in the Vibration Analysis I course (Course No. EK-ICM201).



### Duration

**3 Days**

### Prerequisite

**None**

## Course Content



### Day 1

- Introduction to Vibration Technology
- Characteristics of Vibration
- Relating Vibration Frequency, Amplitude and Phase to Machine Condition
- Review of Severity Charts
- Differences between Displacement, Velocity and Acceleration

### Day 2

- Instrument for Vibration Detection and Analysis
- Transducer Selection and Mounting Methods
- Introduction to Vibration Analysis
- Identifying the Most Common Machinery Problems

### Day 3

- Introduction to Dynamic Balancing
- Calculating Trial and Correction Weights
- Implementing a Predictive Maintenance Program



## Technology Requirements



All technology is provided for students use in the classroom by Rockwell Automation.

## Student Materials

- Provided Student Manual – key concepts, definitions and examples of the course including;
  - Vibration Analysis
  - Vibration Severity and Spectral Band Alarm Charts
  - Dynamic Balancing

## Minimum Pax

6 Pax