



# BASIC MACHINERY VIBRATION (BMV)

## VIBRATION ANALYST CERTIFICATION CATEGORY (II)

### ISO 18436-2:2014 CAT (II)



 **Course Period : 5 Consecutive Days**

 **VCAT II Exam : 5<sup>th</sup> Day**

CERTIFICATION BY

**Vibration  
Institute**

HRDC CLAIMABLE COURSE



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# INTRODUCTION

## INTRODUCTION TO BASIC MACHINERY VIBRATION (BMV)

is an intermediate-level training course designed to equip participants with the skills and knowledge needed to perform basic vibration analysis on industrial machinery using single-channel measurements, with or without trigger signals, based on recognized procedures. Ideal for individuals with foundational knowledge in vibration, this course serves as partial **preparation** for the **Vibration Analyst Category II Certification Exam**, fulfilling the **minimum 38-hour** training requirement in accordance with **ISO 18436-2:2014**.

Participants will explore key topics such as sensor fundamentals, data collector and database setup, data collection, signal processing, fault diagnosis, and basic single-plane balancing. The course features instructor-led explanations, guided exercises, and real-world examples to reinforce theoretical concepts. Interactive discussions and scenario-based activities promote a deeper understanding of vibration analysis and help prepare attendees for both the Category II exam and practical application in the field.

The Vibration Institute's Certification Program for Vibration Analysts is an ANAB - accredited personnel certification program that meets the highest international standards for impartiality and technical competence. As a third-party certification body defined under ISO/IEC 17000, the Institute conducts independent conformity assessments in vibration condition monitoring and diagnostics. Accredited to ISO/IEC 17024 by the ANSI National Accreditation Board (ANAB), the program also complies with ISO 18436-1 and ISO 18436-2. Widely recognized as a benchmark of professional excellence, it is the only vibration analyst certification program accredited by ANAB, setting the standard for credibility, industry relevance, and trust in the field.



*ANSI National Accreditation Board*

**A C C R E D I T E D**

**ISO/IEC 17024**

**PERSONNEL CERTIFICATION  
BODY**

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# TRAINING OBJECTIVES



## CATEGORY II CERTIFIED VIBRATION ANALYSTS

shall be able to:



- **Demonstrate all knowledge and skills of a Category I certified analyst**
- **Define routine data collection activities, including setting acquisition and analysis parameters**
- **Use basic signal analysis techniques to evaluate vibration data**
- **Collect additional test data when unusual conditions are detected**
- **Perform single-channel impact tests**
- **Interpret and evaluate results according to specifications and industry standards**
- **Diagnose common machinery faults**
- **Recommend basic corrective actions**
- **Identify and suggest alternative condition monitoring technologies to confirm findings**





# 1 BASIC MACHINERY VIBRATIONS

Units, Properties, Measurements, Motions, Time, Excitation, Critical Speeds, Frequency, and Amplitude.



# 2 DATA ACQUISITION

Selecting a Measure, Transducers, Frequency Spans, Data Displays, and Calibration.

# 3 DATA PROCESSING

Units, Properties, Measurements, Motions, Time, Excitation, Critical Speeds, Frequency, and Amplitude.

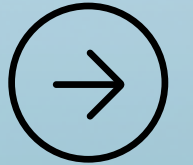
# 4 FAULT DIAGNOSTICS

Techniques, Operating Speed, Rolling Element Bearings, Gearboxes, Motors, Pumps, Fans, and Compressors.



# COURSE OUTLINE,

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**5**

## **CONDITION EVALUATION**

**Shaft Vibration, Bearing Vibration, Casing Vibration, Historical Data Base, Charts and Graphs.**

**6**

## **MACHINE TESTING**

**Equipment, Site Inspection, Acceptance Testing, Baseline Development, Transient Testing, Presentation of Data and Reports**

**7**

## **PERIODIC MONITORING**

**Listing Assets, Categorizing Priorities, Route Selections, Measurement Points, Frequency of Data Collection, Reporting of Results.**

**8**

## **SINGLE PLANE BALANCING**

**Type of Unbalance, Balancing Equipment, Pre-balancing Checks, Measurements, Trial Weights, Vector Method and Balancing Solution.**





# HOW TO BECOME A CERTIFIED VIBRATION ANALYST CAT-II



## EDUCATION

No formal education is required, but candidates should be **computer literate**, able to use a basic scientific calculator, and **understand simple algebra**. A high school education is recommended.



## EXPERIENCE

Candidates must have **a minimum of 18 months** of experience in machinery vibration condition monitoring and diagnostics. Proof of experience is required to sit for the certification exam.



## TRAINING

Candidates must complete **a minimum of 38 hours** of formal training plus hold **a valid Category I certification**, as outlined in ISO 18436-2. Training must be provided by an ISO 18436-3 compliant provider, with documented proof required to sit for the Category II exam.



## EXAMINATION

The exam has **105 multiple-choice questions** to be completed in **3 hours**, covering concepts from ISO 18436-2. It is **closed-book**, with no reference materials or scrap paper allowed. A basic, non-programmable calculator is recommended. **Passing scores** vary by exam and are set using the **Angoff Method**. Some questions may be unscored beta items.



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**MAINTENANCE &  
RELIABILITY  
PERSONNEL IN CBM**

**MECHANICAL FITTERS  
AND  
TECHNICIANS**

**ENGINEERS  
OVERSEEING  
MACHINERY HEALTH**



# WHO SHOULD ATTEND



**NEWCOMERS  
TO  
VIBRATION ANALYSIS**



**ANYONE SEEKING  
BASICS IN VIBRATION  
& CBM**



**THOSE PREPARING  
FOR CATEGORY II  
CERTIFICATION EXAM**





# REGISTER NOW!



## Contact Us



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