

Vibration Analysis: Category 2

Vibration Analysis ISO Category 2

The 'Intermediate Level' **Mobius Institute** Category 2 course is ideal for those who are interested in condition monitoring to ensure the reliability of their machinery, and who have either, completed a VA Cat 1, or have significant vibration analysis experience, including an understanding of vibration theory and terminology.

The course provides an in-depth study of machinery faults and their associated spectrum, time waveform and phase characteristics. Additional topics covered include: signal process; signal analysis data collection; and proactive measures. You will come away with a very good understanding of the fundamentals and you will feel comfortable analyzing vibration spectra, time waveforms, envelope data, and phase data.

Course Materials

- Pre and post course online study resources
- Interactive assessments during the course
- 300-page course notes
- Short-form booklet
- Diagnostic mousepad
- VIA Certificate of Completion
- Mobius Certificate
- Mobius membership

Public Course Description

Duration: 5 days training including optional 3-hour Certification exam

Hours: Training Days 1-5: 8.00am to 5.00pm

Exam Day 5: 1 pm to 4.00pm

Format: Classroom learning

Optional: Certification examination, 3 hours, 70% passing grade

Compliance: Follows ISO 18436-2 and 18436-3 and provides 3.5 Continuing Education Unit CEU credits

Pre-Study: Registered students are given access to the online version of the course via the **Mobius Institute Learning Zone™** before the class and for four months after course completion to assist them with converting the course information into practice.

Certification Prerequisite: Prior experience is not required for attending the training course, but 18 months of experience is required for certification.

Outcome: You will come away from this course with a very good understanding of vibration analysis fundamentals, you will be competent in quality data acquisition and diagnosing common faults.



Vibration Analysis Category 2 – Certification

All VIA trained, **Mobius Institute™** certified analysts receive personalized logos with their certification number and name for their own professional use. Mobius Institute also maintains a listing of all certified analysts on our website and provides each analyst with a certification confirmation webpage.

For more information about Mobius Institute's accreditation, and the recognition of your certification by the ISO 18436 standard, please visit www.mobiusinstitute.com/certification.



Vibration Institute of Australia

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Course Summary

Review of maintenance practices

Review of condition monitoring technologies

Principles of vibration

- Complete review of basics
- Waveform and spectrum (FFT), phase and orbits
- Understanding signals

Data acquisition

- Transducers types, selection and mounting
- Measurement point selection
- Following routes, test planning, measurement errors

Signal processing

- Filters, sampling, aliasing, dynamic range, windowing
- Resolution, Fmax, data collection time, averaging

Vibration analysis

- Spectrum analysis methodology
- Introduction to time waveform, phase and orbit analysis
- Enveloping, shock pulse, spike energy, Peak Vue™

Detailed fault analysis

- Natural frequencies and resonances
- Imbalance, eccentricity and bent shaft
- Misalignment, cocked bearing and soft foot
- Mechanical looseness
- Rolling element bearing analysis
- Analysis of induction motors, gears, belts, pumps, compressors, and fans
- Lots of case studies and exercises for participants

Equipment testing and diagnostics

- Impact testing (bump tests)
- Phase analysis

Corrective action

- General maintenance repair activities
- Review of the balancing and shaft alignment process

Successful condition monitoring program

- Setting baselines and alarm limits
- Report generation, reporting success stories

Acceptance testing and ISO standards

Public Course Includes

Course (& Materials)

- 4.5 day classroom training
- Pre and post course online study resources
- Diagnostic Reference Guide
- Course Notes/ Manual
- Certificate of Completion
- Lunches and refreshments included

Optional Exam - 3 hour Certification exam

Registration

Visit viaustralia.com.au/registration to register or to request a quote for our courses.

For further information about Vibration Analysis training, or to request a quote, please contact Jennie at jennie@viaustralia.com.au

- tailored in-house training
- Mobius distance learning online courses
- public classroom courses

About VIA

Clyde Volpe is the founder of VIA - the Vibration Institute of Australia, and is the **exclusive Mobius™ Training Partner** for Category 1, 2, and 3 Vibration Analysis public courses in the Australia/New Zealand region.

Mobius Institute awarded Clyde 'Instructor of the Century'. He has trained in over 30 countries, spanning 30 years to over 12,000 students. Clyde has a reputation for his energy, and his motivating and entertaining courses. With his hands-on experience, with the Mobius simulators, he has the ability of making the very complex easy to understand. His courses are designed to use vibration analysis to drive capability.

Contact Clyde at clyde@viaustralia.com.au



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