



## Duration

5 days (35 hours)

## Delivery

Classroom

## Audience

- Engineers seeking to advance their machinery vibration diagnostics skills
- Engineers involved in design, acceptance testing, maintenance of rotating machinery
- Academic researchers and professors involved in rotor dynamics
- Post-graduate engineers

## AMD

### Objectives

- Extend knowledge on machinery diagnostic techniques and rotor dynamics for rotating machinery
- Recognize, explain and account for effects of complex rotor dynamics interaction of modes, mode shapes, thermal changes, bearing design, torsional vibration and structural modes by using rotor modeling, actual machine data and case history
- Use standard vibration diagnostic tools on machine-simulating rotor kits through demonstration
- Analyze and discuss case histories that highlight the vibration documentation, analysis and machine malfunction corrective techniques.

### Program

In order to put theory into practice, this training includes real-life demonstrations and 25 case studies:

- Rotor modeling as a machinery diagnostics tool
- Bearing design (fluid bearings and magnetic bearings)
- Diagnose and mitigation of fluid Induced Instabilities
- Modal and operating deflection shape analysis
- Torsional vibrations measurements and analysis
- Rotor model
- Anisotropy
- Shaft cracks
- Signal processing
- Balancing machines
- Rotor to stator rubs
- Gear forces analysis

*Bently Nevada AMD course has been approved by our partner Mobius Institute. After the course, attendees who complete Mobius Institutes CAT IV online training can take the optional ISO 18436-2 CAT IV exam.*

### Learning path

#### Recommended Prerequisites

- Machinery diagnostics methodology or
- ISO 18436 category III

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#### Next steps

#### Benefits



For each theme, historic cases show practice of each technique