



دورة تدريبية في نظريات وتطبيقات الاهدازات الهيكانيكية



AGILE LEADERS
Training Center

05 - 09 Oct 2026
أبوظبي



دورة تدريبية في نظريات وتطبيقات الاهتزازات الميكانيكية

الرجوع: 36234_75798 التاريخ: 05 - 09 Oct 2026 الموقع: أبوظبي الرسوم: Euro 6500

Mechanical Vibrations Theory and Application Training Course Overview:

The course is designed to provide a comprehensive understanding of the fundamental concepts and practical applications of mechanical vibrations. This course covers key topics such as vibration analysis, modeling techniques, SDOF Single Degree of Freedom and MDOF Multiple Degrees of Freedom systems, free vibration analysis, forced vibration studies, harmonic excitation, and vibration isolation techniques. Participants will explore advanced topics including transient vibration analysis, nonlinear vibrations, random vibrations, finite element method vibrations, and vibrations in continuous systems. By incorporating a blend of theoretical knowledge and hands-on applications, this course aims to enhance participants' skills in engineering vibrations, advanced vibration damping methods, and practical vibration isolation. The course is tailored to meet the needs of professionals seeking to improve their understanding of mechanical vibration applications in various engineering fields.

Target Audience:

- Mechanical Engineers
- Vibration Analysts
- Maintenance Engineers
- Aerospace Engineers
- Automotive Engineers
- Civil Engineers
- Industrial Engineers

Targeted Organizational Departments:

- Engineering Departments
- Maintenance Departments
- R&D Departments
- Quality Assurance

Targeted Industries:

- Aerospace Industry
- Automotive Industry
- Manufacturing Industry
- Civil Engineering
- Power Generation
- Oil and Gas Industry

Course Offerings:

By the end of this course, participants will be able to:

- Perform vibration analysis on mechanical systems
- Apply vibration modeling techniques to engineering problems
- Analyze free and forced vibrations in SDOF and MDOF systems
- Implement vibration isolation methods for various applications
- Utilize finite element methods for vibration studies
- Address challenges in transient and nonlinear vibrations
- Conduct random vibration analysis in practical scenarios

Training Methodology:

The training methodology for the course includes a mix of interactive lectures, case studies, group discussions, and -hands-on workshops. Participants will engage in real-world vibration analysis exercises, vibration isolation problem solving sessions, and use advanced software tools for vibration modeling. The course emphasizes practical applications and encourages active participation through collaborative projects and feedback sessions. This approach ensures a deep understanding of the course material and the development of practical skills in mechanical vibrations.

Course Toolbox:

- Course Workbooks
- Reading Materials and Textbooks
- Online Resources and Tutorials
- Checklists and Templates for Vibration Modeling

Course Agenda:

Day 1: Introduction to Mechanical Vibrations

- Fundamentals of Mechanical Vibrations Topic 1:
- Vibration Analysis Techniques Topic 2:
- Mathematical Modeling of Vibrations Topic 3:
- SDOF Systems Analysis Topic 4:
- MDOF Systems Overview Topic 5:
- Key Concepts and Applications Reflection & Review:



Day 2: Free and Forced Vibrations

- Free Vibration Analysis Topic 1: •
- Forced Vibration Studies Topic 2: •
- Harmonic Excitation in Mechanical Systems Topic 3: •
- Practical Vibration Isolation Techniques Topic 4: •
- Advanced Vibration Damping Methods Topic 5: •
- Practical Applications and Techniques Reflection & Review: •

Day 3: Transient and Nonlinear Vibrations

- Transient Vibration Analysis Topic 1: •
- Nonlinear Vibrations Topic 2: •
- Random Vibrations Techniques Topic 3: •
- Finite Element Method Vibrations Topic 4: •
- Vibrations in Continuous Systems Topic 5: •
- Analysis and Applications Reflection & Review: •

Day 4: Advanced Vibration Topics

- Engineering Dynamics and Vibrations Topic 1: •
- Advanced Vibration Damping Methods Topic 2: •
- Practical Vibration Isolation Techniques Topic 3: •
- Case Studies in Vibration Analysis Topic 4: •
- Integrating Knowledge and Skills Reflection & Review: •

Day 5: Final Projects and Review

- Capstone Project Presentations Topic 1: •
- Group Discussions on Vibration Applications Topic 2: •
- Review of Key Concepts and Techniques Topic 3: •
- Final Assessment and Feedback Topic 4: •
- Course Wrap-Up and Certification Topic 5: •
- Summary of Learning Outcomes Reflection & Review: •

How This Course is Different from Other Maintenance and Engineering Courses:

The course stands out by offering a balanced approach between theoretical knowledge and practical skills. Unlike other courses, this training provides extensive hands-on experience with vibration analysis software and real-world case studies. The course covers a wide range of topics, from basic vibration theory to advanced applications such as finite element method vibrations and nonlinear vibrations. Participants benefit from personalized feedback, interactive sessions, and a focus on practical applications, ensuring they leave with a comprehensive understanding of mechanical vibrations and their applications in various industries.



فئات الدورات التدريبية



HR TRAINING &
DEVELOPMENT

دورات إدارة و تطوير الموارد البشرية



دورات إدارة و تحليل البيانات ودورات علم
البيانات



دورات إدارة الجودة وتطوير العمليات



الدورات التدريبية في مجال البيئة والاستدامة



دورات التسويق وإدارة علاقات العملاء وإدارة
المبيعات



دورات التدريب القانوني والمشتريات
والتعاقدات



دورات الاتصال الجماهيري و السياسات
والعلاقات العامة



دورات النظم السبراني ودورات تقنية
المعلومات



دورات الصيانة ودورات المجالات الهندسية
المتنوعة



دورات الصحة والسلامة والأمن المهني



دورات السكرتارية و إدارة المكاتب



دورات الحوكمة وإدارة المخاطر والامتثال



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فئات الدورات التدريبية



دورات معتمدة من قبل هيئات دولية



دورات في مجالات القيادة والإدارة



دورات المهارات الشخصية وتطوير الذات



دورات المحاسبة و التمويل و دورات الإدارة
المالية



دورات مكتب إدارة المشاريع وإدارة المشاريع
الرشيقية

مدن التدريب



أمستردام - هولندا



أكرا - غانا



أثينا - اليونان



أبوظبي - الإمارات العربية المتحدة



الدوحة - قطر



الدار البيضاء - المغرب



الجبيل - المملكة العربية السعودية



استنبول - تركيا



المنامة - مملكة البحرين



الكويت - الكويت



القاهرة - مصر



الرياض - المملكة العربية السعودية



بانكوك - تايلند



بالي - جمهورية إندونيسيا



بأكو - أذربيجان



باريس - فرنسا

مدن التدريب



بوكيت - تايلاند



بورتو - البرتغال



برشلونة - إسبانيا



براغ - جمهورية التشيك



جوهانسبرغ - جنوب إفريقيا



جنيف - سويسرا



جاكرتا - جمهورية إندونيسيا



تبليسي - جورجيا



سان دييغو - الولايات المتحدة الأمريكية



زنجبار - تنزانيا



روما - إيطاليا



دبي - الإمارات العربية المتحدة



شيكاغو - الولايات المتحدة الأمريكية



شرم الشيخ - مصر



سيول - كوريا الجنوبية



سنغافورة - سنغافورة

مدن التدريب



عمان - المهلكة النردنية الهاشمية



طوكيو - اليابان



طشقند - أوزبكستان



طرابزون - تركيا



كيب تاون - جنوب إفريقيا



كوالالمبور - ماليزيا



فيينا - النمسا



عن بعد - منصة زووم



مدريد - إسبانيا



مأرييا - إسبانيا



لندن - المملكة المتحدة



لانكاوي - ماليزيا



ميونخ - ألمانيا



ميلان - إيطاليا



مونترو - سويسرا



مسقط - سلطنة عمان



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مدن التدريب



نيس - فرنسا



نيروبي - كينيا

WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



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