

Fundamentals of Mechanical Technology: Principles & Practice

Oil & Gas Engineering
Rome (Italy)
14 - 18 Jul 2025

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Fundamentals of Mechanical Technology: Principles & Practice

Ref: 3270_134965 **Date:** 14 - 18 Jul 2025 **Location:** Rome (Italy) **Fees:** 4200 **Euro**

Course Description

This comprehensive 5-day course provides a solid foundation in mechanical technology fundamentals. Participants will explore core principles of mechanics, materials science, design processes, and manufacturing techniques. Through a combination of theoretical knowledge and hands-on exercises, attendees will gain practical skills applicable to various engineering fields.

Learning Objectives

- Understand fundamental principles of mechanics and their applications
- Analyze material properties and selection criteria for engineering applications
- Apply basic design principles using CAD software
- Comprehend manufacturing processes and their implications on product design
- Develop problem-solving skills for mechanical engineering challenges

Course Modules

Day 1: Introduction to Mechanical Principles

- Basic concepts of statics and dynamics
- Force systems and equilibrium
- Kinematics and kinetics
- Energy and momentum principles

Day 2: Materials Science and Properties

- Material classification and structure
- Mechanical properties of materials
- Material selection criteria
- Testing and characterization methods

Day 3: Design Fundamentals and CAD

- Engineering drawing standards
- Introduction to CAD software
- 2D and 3D modeling techniques
- Design for manufacturability

Day 4: Manufacturing Processes

A graphic of a chessboard with several chess pieces (king, queen, rook, knight, and pawns) in gold and silver. The text 'UK Training PARTNER' is overlaid on the board.

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- Overview of manufacturing methods
- Machining processes and tools
- Forming and shaping techniques
- Additive manufacturing and 3D printing

Day 5: Applied Mechanical Systems

- Mechanical power transmission
- Fluid power systems
- Thermal systems and heat transfer
- Mechatronics basics

Practical Wins for Participants

- Ability to analyze and solve basic mechanical engineering problems
- Proficiency in using CAD software for design tasks
- Understanding of material selection for specific applications
- Knowledge of manufacturing processes to optimize product design

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