

# Fundamentals of Mechanical Technology: Principles & Practice

Oil & Gas Engineering  
Kigali (Rwanda)  
18 - 22 Aug 2025

UK Training

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A close-up photograph of chess pieces on a checkered board. In the foreground, a large, ornate gold king piece stands prominently. To its left, a smaller silver pawn is visible. Further back, another silver pawn is positioned. The background features concentric circles, creating a sense of depth and focus on the pieces.

## Fundamentals of Mechanical Technology: Principles & Practice

**Ref:** 3270\_137736 **Date:** 18 - 22 Aug 2025 **Location:** Kigali (Rwanda) **Fees:** 3300 **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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