



London TDM

# Mechanical and Electrical Engineering Training Courses

**Course Venue:** United Arab Emirates - Dubai

**Course Date:** From 15 March 2026 To 19 March 2026

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

This professional course on "Mechanical Fabrication and Assembly Techniques" is designed to equip participants with comprehensive knowledge and practical skills in mechanical fabrication processes and assembly technologies. Over five days, attendees will delve into both traditional and modern techniques, gaining hands-on experience and theoretical insights applicable to various industrial applications.

### Objectives

- Understand fundamental principles of mechanical fabrication and assembly.
- Gain proficiency in the use of fabrication tools and machinery.
- Learn to interpret technical drawings and specifications for assembly.
- Develop skills in quality control and testing of fabricated components.
- Explore advanced and emerging techniques in mechanical fabrication.

## Course Outlines

### Day 1: Fundamentals of Mechanical Fabrication

- Introduction to fabrication materials and properties.
- Overview of fabrication processes: cutting, forming, and joining.
- Safety protocols and equipment handling.
- Basics of technical drawing interpretation.
- Hands-on session: Workshop safety and tool orientation.

### Day 2: Fabrication Techniques and Practices

- Detailed study of cutting techniques: sawing, shearing, laser cutting.
- Forming methods: bending, stamping, and forging.
- Joining techniques: welding, riveting, bolting.
- Workshop practice: Sheet metal fabrication.
- Quality control measures in mechanical fabrication.

### Day 3: Assembly Techniques and Best Practices

- Overview of mechanical assembly methods.
- Interpreting assembly drawings and specifications.
- Assembly sequence planning and optimization.
- Workshop exercise: Creating and assembling mechanical components.
- Introduction to automation in assembly processes.

### Day 4: Advanced Fabrication Technologies

- Additive manufacturing techniques and applications.
- CNC machining: principles and practices.
- Advanced welding technologies: laser and friction stir welding.
- Workshop practice: 3D printing and CNC operation.
- Case studies of advanced fabrication in industry.

## **Day 5: Quality Assurance and Future Trends**

- Quality assurance principles in manufacturing.
- Non-destructive testing (NDT) techniques.
- Introduction to Industry 4.0 and smart manufacturing.
- Exploring sustainable fabrication processes.
- Course wrap-up: Review, feedback, and certification.