



London TDM

Engineering and Technical Skills Training Courses

Course Venue: United Arab Emirates - Dubai

Course Date: From 02 November 2025 To 06 November 2025

Course Place: Downtown Dubai

Course Fees: 5,000 USD

Introduction

The "CAD/CAM Tools for Mechanical Design" professional course is designed to provide participants with a comprehensive understanding of computer-aided design (CAD) and computer-aided manufacturing (CAM) technologies. Over the course of five days, attendees will gain hands-on experience with industry-standard software tools used in mechanical design and manufacturing. The course will help professionals enhance their skills and apply CAD/CAM methodologies effectively in real-world projects.

Objectives

- Understand the fundamental concepts of CAD and CAM systems.
- Gain proficiency in using CAD/CAM software tools for mechanical design.
- Learn to create detailed 3D models and technical drawings.
- Explore automated manufacturing processes using CAM.
- Apply CAD/CAM techniques to optimize mechanical design workflows.

Course Outlines

Day 1: Introduction to CAD/CAM Systems

- Overview of CAD/CAM technologies and their importance in mechanical design.
- Introduction to CAD software interfaces and functionalities.
- Basic sketching and dimensioning techniques for mechanical components.
- Understanding coordinate systems and geometric constraints.
- Hands-on session: Creating simple 2D sketches.

Day 2: 3D Modeling and Design

- Introduction to 3D modeling concepts and techniques.
- Creating complex 3D geometries using CAD tools.
- Techniques for assembling multiple components in a 3D model.
- Model verification and analysis for design accuracy.
- Hands-on session: Building a 3D mechanical assembly.

Day 3: Advanced CAD Techniques

- Parametric modeling and the use of design variables.
- Feature-based modeling and design iterations.
- Advanced surface modeling for complex shapes.
- Generating technical drawings and annotations.
- Hands-on session: Creating advanced models with parametric features.

Day 4: Introduction to CAM Processes

- Overview of CAM systems and their role in manufacturing.
- Understanding CNC programming concepts and machine operations.
- Generating tool paths and machining strategies using CAM software.
- Simulation of machining operations and error detection.

- Hands-on session: Simulating a milling operation in CAM software.

Day 5: Integrating CAD/CAM for Production

- Workflow integration between CAD and CAM systems.
- Optimizing design for manufacturability and cost-efficiency.
- Case studies: Real-world applications of CAD/CAM in industry.
- Exploring future trends in CAD/CAM technology.
- Final project: Designing and simulating a part from scratch.