

DESIGN FOR MANUFACTURABILITY

“Optimizing Design for Efficient and Cost-Effective Manufacturing”

Schedule

Date	Venue	Fees (Face-to-Face)
04 - 05 Mar 2026	Manama, Bahrain	USD 1995 per delegate

Introduction

Design for Manufacturability (DFM) is a critical approach in product design aimed at optimizing the ease of manufacturing, reducing costs, and improving product quality. This 2-day course will introduce participants to the principles and methodologies of DFM, helping them integrate design and manufacturing processes effectively. By applying DFM techniques, organizations can achieve faster time-to-market, improved product reliability, and reduced production costs.

The course will cover the best practices in product design that align with manufacturing capabilities, focusing on minimizing complexity, reducing material waste, and ensuring design compatibility with production processes. Participants will also engage in hands-on exercises to enhance their ability to apply DFM concepts to real-world scenarios.

Objectives

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

- Understand the principles and concepts of Design for Manufacturability (DFM).
- Apply DFM techniques to optimize product designs for manufacturing efficiency.
- Identify design features that can complicate manufacturing processes.
- Reduce manufacturing costs by improving design processes.
- Improve collaboration between design and manufacturing teams to streamline production

Why Attend

- Learn how to reduce manufacturing costs and improve product design.
- Gain the skills to improve product quality and minimize production errors.
- Enhance time-to-market by applying DFM techniques early in the design process.
- Gain practical knowledge to identify and eliminate manufacturing constraints.
- Improve communication and collaboration between design and manufacturing teams.

Target Audience

This program is designed for:

- Product designers and engineers
- Manufacturing and process engineers
- Design and production teams
- Operations and production managers
- Quality control and process improvement professionals

Individual Benefits

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- Product designers and engineers
- Manufacturing and process engineers
- Design and production teams
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Organizational Benefits

Upon completing the training course, participants will demonstrate:

- The ability to implement Design for Manufacturability (DFM) strategies to reduce production costs.
- Improved product quality through optimized design processes.
- Streamlined product development cycles, reducing time-to-market.
- Better alignment between design and manufacturing teams for smoother production flows.
- Enhanced innovation in product design with a focus on manufacturing capabilities.

Instructional Methodology

The course combines theory with practical exercises:

- Lectures to explain the principles and techniques of DFM.
- Case studies to illustrate real-world DFM applications and challenges.
- Interactive workshops to apply DFM techniques to product designs.
- Group discussions to share insights and solutions to manufacturing constraints.
- Hands-on exercises to practice identifying and eliminating design-related manufacturing issues.

Course Outline

Training Hours: 07:30 AM - 03:30 PM Daily Format: 3-4 Learning Modules | Coffee Breaks: 09:30 & 11:15 | Lunch Break: 01:00 - 02:00

Day 1: Introduction to Design for Manufacturability (DFM)

- Module 1: Principles of DFM (07:30 - 09:30)
 - Overview of Design for Manufacturability.
 - Key goals and principles of DFM in product design.
 - Benefits of DFM for manufacturers and businesses.
- Module 2: DFM Methodologies and Tools (09:45 - 11:15)
 - Key methodologies and techniques used in DFM.
 - Tools for analyzing and improving product designs.
 - Integrating DFM practices in the design process.
- Module 3: Workshop - Applying DFM Principles (11:30 - 01:00)
 - Participants work through a case study to apply DFM principles to a product design.

Day 2: Optimizing Design and Reducing Manufacturing Costs

- Module 4: Reducing Complexity and Material Waste (07:30 - 09:30)
 - Identifying complex design features that can complicate manufacturing.
 - Techniques for reducing material waste and enhancing sustainability.
 - Simplifying designs to improve manufacturing processes.
- Module 5: Improving Collaboration Between Design and Manufacturing (09:45 - 11:15)
 - Importance of cross-functional communication in DFM.
 - Best practices for collaborating with manufacturing teams.
 - Aligning design specifications with manufacturing capabilities.
- Module 6: Workshop - DFM Application and Design Optimization (11:30 - 01:00)
 - Participants optimize a product design for manufacturability, applying lessons learned.

Certification

Upon successful completion of this course, participants will receive a Certificate of Completion in Design for Manufacturability, demonstrating their ability to apply DFM principles to improve product design and manufacturing processes.

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