BOOST
THE LEADING TRAINING PROVIDER

Quality Management & Operational Excellence

Advanced Operational Solutions: Optimizing Engineering Processes

Course Introduction

This course focuses on developing advanced solutions to optimize engineering and operational processes. It covers various methodologies and tools for improving efficiency, quality, and sustainability in engineering operations.

Target Audience

- Process Engineers: Professionals responsible for designing, implementing, and optimizing industrial processes.
- Production Managers: Individuals overseeing manufacturing processes, seeking to improve productivity and reduce operational costs.
- Quality Managers: Those focusing on maintaining and improving product quality within engineering processes.
- Operations Managers: Managers aiming to enhance overall operational efficiency and effectiveness.
- Manufacturing Engineers: Engineers involved in the design and operation of manufacturing systems, seeking to implement advanced engineering practices.

Learning Objectives

- Analyze and map complex engineering processes
- Apply advanced optimization techniques to improve operational efficiency
- Develop data-driven solutions for process improvement
- Implement lean and agile methodologies in engineering operations
- Design sustainable and environmentally friendly engineering solutions
- Utilize emerging technologies to enhance operational performance

Course Outline

- **01 DAY ONE**

  Process Analysis and Mapping

  - Advanced process mapping techniques
  - Value stream mapping in engineering processes
  - Identifying waste and inefficiencies in operations
  - Process simulation and modeling tools
  - Case study: Mapping and analyzing a complex engineering process
- **02 DAY TWO**

  Operational Efficiency Optimization

  - Lean engineering principles and practices
  - Theory of Constraints (TOC) in engineering operations
  - Queueing theory and bottleneck management
  - Capacity planning and resource optimization
  - Practical session: Optimizing an engineering workflow
- **03 DAY THREE**
  - Big data analytics in engineering operations
  - Predictive modeling for process improvement
  - Machine learning applications in operational optimization
  - Real-time monitoring and control systems
  - Workshop: Developing a data-driven solution for process improvement
- **04 DAY FOUR**

  Agile and Adaptive Engineering Solutions

  - Agile methodologies in engineering projects
  - Scrum and Kanban for engineering teams
  - Adaptive project management techniques
  - Flexible manufacturing systems
  - Group exercise: Implementing agile practices in an engineering scenario
- **05 DAY FIVE**

  Sustainable and Innovative Operational Solutions

  - Green engineering principles and practices
  - Life cycle assessment in solution development

• Energy efficiency and waste reduction strategies
• Industry 4.0 and smart manufacturing solutions
• Final project: Developing a comprehensive, sustainable operational solution

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 5, 2025	May 9, 2025	5 days	4250.00 $	UAE - Dubai