BOOST
THE LEADING TRAINING PROVIDER

Electrical Engineering

Engineering Management for Planning and Optimization Success

Course Introduction

This program is designed for professionals seeking to enhance their skills in engineering management through a comprehensive understanding of advanced concepts, strategic planning, and the integration of innovative technologies. As industries evolve, so must our approaches to management and leadership. This course will equip you with the tools and frameworks necessary to navigate complex systems, optimize decision-making, and drive organizational success in an ever-changing environment.

Target Audience

- Engineering Managers
- Project Managers
- Technical Leaders
- Data Analysts and Decision Makers
- Organizational Change Agents

Learning Objectives

- Understand and Apply Advanced Engineering Management Concepts
- Develop Strategic Planning Frameworks
- Utilize Advanced Systems Thinking and Optimization Techniques
- Implement Quantitative Optimization Techniques
- Design and Manage Network Systems
- Leverage Data Analytics for Decision Making
- Execute Effective Risk Management Strategies
- Manage Change Effectively
- Measure Performance and Drive Continuous Improvement
- Explore Future Trends and Innovation

Course Outline

- **DAY 01**

  Advanced Engineering Management Concepts

  - Overview
  - Understanding the Evolution of Engineering Management
  - Leadership and Management Integration
  - Differentiating Leadership and Management in Engineering Contexts
  - Empowering Teams for Optimized Outcomes

  Strategic Planning Frameworks

  - Strategic Visioning
  - Crafting a Vision and Mission That Inspire
  - Business Alignment
  - Techniques for Aligning Technology Needs with Business Strategies
  - Stakeholder Analysis
  - Identifying and Engaging Key Stakeholders in the Planning Process
  - Interactive Workshop: Craft a strategic plan for a hypothetical organization.

- **Day 02**

Advanced Systems Thinking and Optimization

- Systems Theory in Depth
- Understanding Complex Systems through a Managerial Lens
- Optimization Techniques
- Applying Systems Dynamics Modeling for Effective Decision-Making
- Interactive Case Study: Analyze a failed optimization project and develop solutions.

Quantitative Optimization Techniques

- Advanced Analytical Methods
- Exploring Applications of Linear and Non-Linear Programming
- Data-Driven Decision-Making
- Using Predictive Modeling and MCDA for Strategic Decisions
- Hands-On Exercise: Develop a simple optimization model using real data.

• **Day 03**

Network Design and Traffic Management

- Network Planning Essentials
- Principles of Network Design and Capacity Planning
- Traffic Flow Management Strategies
- Implementing Advanced Traffic Simulation and Forecasting Models
- Real-World Application: Evaluate a current network system's performance.

Leveraging Data Analytics

- Advanced Data Techniques
- Harnessing Big Data and AI in Planning Processes
- Dashboard Creation
- Building Interactive Dashboards for Real-Time Decision Making
- Group Activity: Create a KPI dashboard for a specific business objective.

• **Day 04**

Effective Risk Management Strategies

- Comprehensive Risk Assessment
- Establishing a Risk Management Framework
- Leading Risk Mitigation Initiatives
- Engaging Teams in Risk Management Behaviors
- Simulated Exercise: Conduct a risk assessment on an engineering project.

Change Management and Implementation

- Principles of Change Management
- Understanding Change Models (Kotter’s 8 Steps, ADKAR)
- Engaging the Organization
- Communicating Change Effectively Across All Levels
- Role-Playing Exercise: Manage a change initiative using a case scenario.

- **Day 05**

Performance Measurement and Continuous Improvement

- Key Performance Indicators (KPIs)
- Developing and Interpreting KPIs for Organizational Success
- Continuous Improvement Frameworks
- Implementing Lean and Six Sigma Principles
- Team Workshop: Conduct a root cause analysis of a performance issue.

Future Trends and Innovation in Engineering Management

- Emerging Technologies Impact
- Exploring AI, IoT, and Their Roles in Future Planning
- Cultivating a Culture of Innovation
- Encouraging Creativity and Agility in Engineering Management
- Interactive Discussion: Brainstorm future trends and implications for your organization.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 29, 2025	July 3, 2025	5 days	2150.00 $	Virtual - Online
Sept. 28, 2025	Oct. 2, 2025	5 days	4250.00 $	KSA - Riyadh
Dec. 8, 2025	Dec. 12, 2025	5 days	4250.00 $	UAE - Dubai