MERCURY

Road and Infrastructure Maintenance Training Course

Istanbul - Turkey: +90 539 599 12 06
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Introduction

This road maintenance and infrastructure management course provides participants with a comprehensive understanding of road maintenance, emphasizing the need to address maintenance issues adequately. This road maintenance and infrastructure management course is crucial to reducing the lifecycle costs of the road network and infrastructure.

As the road networks have been extensively developed, the spotlight is on preserving and extending the life of the existing infrastructure. Therefore, companies must recognize that road maintenance fundamentally differs from constructing new roads. Whereas construction projects are typically defined by a clear start and end, maintenance requires a continuous commitment.

Unlike the design and construction phases, where engineering issues are paramount, maintenance is a fundamental management issue. Optimization of these processes often involves institutional reforms, capacity building, and changes to management practices, as these form the core of road maintenance philosophy.

Understanding the Importance of Infrastructure Maintenance

Infrastructure maintenance, including the upkeep of roads and associated infrastructure, is essential for ensuring safe and efficient transportation systems. This road maintenance and infrastructure management course delves into the importance of infrastructure maintenance, illustrating how proactive preservation strategies can minimize overall costs and disruptions while providing a sustainable approach to managing our transportation networks.

By understanding infrastructure maintenance definitions and management systems, participants in the road maintenance and infrastructure management course are better equipped to execute rigorous maintenance infrastructure protocols and appreciate the importance of a robust county road maintenance program to the longevity and reliability of these critical assets.

Targeted Groups

- Project Managers.
- Traffic Engineers.
- Civil Engineers.
- Highway and Road Engineers.
- Consultants and Contractors are involved in the maintenance process.
- Researchers, Consultants, and Practitioners are in traffic engineering, specializing in management, analytics, optimization, project management, and traffic optimization.
- Engineers, Engineering technologists, and Project Managers engaged with Local Government or State/Federal Agencies.

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Course Objectives

By the end of this road maintenance and infrastructure management course, participants will:

- Comprehend the importance of road maintenance management.
- Plan and prioritize road maintenance employing multiple criteria decision-making.
- Develop a comprehensive road management plan.
- Identify and recommend improvements for existing maintenance programs.
- Thoroughly evaluate complex road maintenance programs and plans.

Targeted Competencies

At the end of this road maintenance and infrastructure management course, the target competencies will be able to:

- Understand the lifecycle cost of the road network.
- Master the maintenance management planning and execution.
- Development of robust maintenance strategies.
- Expertise in maintenance prioritization.
- Manage budgeting and financial aspects related to road maintenance.
- Implement modern tools and technologies for road inventory management.
- Promote maintenance sustainability.

Course Content

Unit 1: Road Infrastructure as an Asset

- Introduction.
- Define the purpose of road maintenance activities.
- Manage road network inventory.
- Understand strategies for the prevention of road deterioration.
- Outline road maintenance management activities.

Unit 2: Monitoring and Actions

- Classification of road.
- Monitoring of surface condition.
- Variables in road condition monitoring.
- Recognizing factors affecting road lifetime.
- Learn about procedures for pavement rehabilitation and recycling.

Unit 3: Road Maintenance Project Management

- Overview of maintenance operations.
- Management of road surfaces.
- Shoulders and approaches.
- Maintenance of roadsides.
- Understand how to maintain bridges, tunnels, and drainage structures.
- Understand the implementation of traffic controls and safety devices.
- Control adverse weather conditions like snow, ice, dunes, and sand.

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Unit 4: Road Maintenance and Construction

- Determine pavement condition.
- Strategies for pavement resurfacing.
- Manage work zones for minimal disruption.
- Structure a road maintenance program.
- Learn how to set road maintenance goals and performance measures.

Unit 5: Developing a Robust Road Maintenance Plan

- Road improvement project planning.
- Craft project strategies and proposals.
- Deliver project outcomes.
- Road survey overview.
- Conduct road surveys and preliminary analysis.
- Understand how to create an effective communication plan.
- Address road maintenance quality issues.
- Implement preventive road maintenance techniques.
- Learn about promptly addressing road emergency repairs.
- Plan for road rehabilitation.
- Road reconstruction.

Unit 6: Leveraging Engineers' Tools for Road Maintenance

- Application of LIDAR systems.
- Capture road inventory through point cloud data collection.
- Employ traffic data collection and big data analytics.
- Conduct road safety audits.
- Incorporate road design innovations.
- Integrating Intelligent Transportation System ITS.