

# Construction in Highways Management

## COURSE OUTLINE

### Course Description

This course is designed to help those involved in the highway construction sector gain further insight and improve their skills in planning and designing highways. The training will also explore the fundamentals of construction and maintenance.

### Learning Outcomes

- Expound the knowledge of the different sectors involved in highway constructions
- Get a refresher on the fundamentals of construction in highways management
- Understand what goes into planning, designing, construction, operation and maintenance

### Teaching Methods

This course will use lectures accompanied by case studies, examples both in graphics and in text to facilitate trainees learning.

### Course Outline

- Introduction to Construction in Highways Management
  - History of Highways
  - The Development of Roads
- The Highway Planning Process
  - Importance and Administration of Highways
  - Sources of Funding
  - Financing Issues
- The Highway Design
  - Highway Types
  - Controls & Criteria
  - Elements of Highway Design
  - Geometric Parameters
- Pavement Thickness
  - Factors Affecting Pavement Design
  - Flexible Pavements
  - Rigid Pavements
- Earthworks for Highways
  - Site Investigation Procedure
  - Optimizing Highways
  - Tractors in Earthmoving

- Highway Pavement Materials and Design
  - Types of Pavements

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- Pavement Deterioration
- Materials used in different types of Pavement
- Highway Drainage
  - Importance of Drainage
  - Principles of Good Drainage
- Highway Equipment Involved
- Highways and Environmental Issues
  - Issues Affecting Highway Projects
  - Environmental Impact Assessment for Highway Projects
  - Anticipated Impacts Due to Highway Construction Projects
- Highway Safety
  - Concepts and Benefits of Roadside Safety

