



CC059

Road Pavement Design and Maintenance

Course Introduction:

Sustainable design of pavements for roads, mining, airports, industrial warehousing and freight terminals is important for safety, serviceability and structural adequacy. It affects the other phases of the 'pavement' life cycle including construction, operation and renewal and maintenance. This workshop outlines pavement design of roads. All three accepted methods of pavement design are covered, including soil factor, R-value thickness, and an introduction to MnPAVE for thickness design. Design guide will be used to review the importance of tools for the following elements of roadway design such as data collection and accurate traffic projections, subgrade soil evaluation and best practices for enhancements, pavement section materials and specifications and best construction practices and their effect on pavement life.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ Determine the principles of pavement design and geological data-site investigation
- ✓ Enumerate the characteristics of soil
- ✓ Recognize the materials used in road construction
- ✓ Discuss the introduction to MnPAVE for thickness design
- ✓ Identify types of road pavement, layers, traffic loads and structural design
- ✓ Use the pavement design codes and proper procedures in road pavements design as well as AASHTO methods
- ✓ Implement road testing in accordance to AASHO and WASHO standards
- ✓ Apply subgrade soil evaluation and best construction practices
- ✓ Explain the overview of subgrade soil enhancement practices
- ✓ Discuss pavement section materials and best construction practices

Who Should Attend?

This course is intended for all civil engineers and technicians responsible for pavement designs on city and county streets.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Outline:

Day 1:

- Principles of Pavement Design
- Geological Data-Site Investigation
- Soil Characteristics
- Construction Materials of Roads

Day 2:

- Types of Road Pavement
- Pavement Layers
- Traffic Loads and Structural Design Requirements
- Pavement Design Codes and Procedures

Day 3:

- Road Construction Technology
- Design of Asphalt Mixes Using Marshall Design Method
- Stresses in Flexible Pavement
- Bituminous Materials and Asphalt Mixes Testing

Day 4:

- Design of Flexible Pavement Using AASHTO Design Method
- Design of Rigid Pavement
- Road Tests (AASHO/WASHO)
- Pavement Distresses and Maintenance

Day 5:

- Performance Evaluation of Flexible and Rigid Pavements
- Performance Based Tests of Asphalt Pavement
- Quality Control & Quality Assurance in Road Construction

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

As per course location - This rate includes participant's manual, Hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session