



المركز العالمي للتدريب والتطوير
International Centre For Training & Development



CC011

Engineering and Construction of Roads Pavement



ACTVET
Abu Dhabi Centre for
Technical and Vocational
Education and Training
مركز أبوظبي
للتعليم والتدريب
الтехни والمهني

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for Health and Occupational Safety
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Course Introduction:

This five-day course discusses the 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 the tools for the following elements of roadway design: data collection and accurate traffic projections; sub-grade 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:

- ✓ Discuss pavement design of roads and pavements as well as pavement design procedures
- ✓ Perform exploration and testing on soil
- ✓ Identify soil stabilization, soil characteristics, special sub-grade problems, filtration and drainage
- ✓ Determine recycled pavement materials and implement QA/QC in construction
- ✓ Explain soil behavior and the basic concepts of geotechnical engineering for design of roads and pavements
- ✓ Apply soil stabilization and construction, including how to fix bad soils
- ✓ Enumerate different types of road pavement
- ✓ Examine traffic loads and apply marshal design method on asphalt mixes
- ✓ Identify the stresses in flexible pavement

Who Should Attend?

This course is intended for engineers, technicians and others who perform or review designs for pavements and roads.

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:

- Introduction to Roads and Pavements
- Principles of Pavement Design
- Basic Design Requirements
- Geological and Geotechnical Site Investigation
- Life Cycle Analysis of Pavements

Day 2:

- Soil Characteristics
- Problems Caused by Soils
- Soil Inputs for Pavement Design Procedures
- Soils Exploration and Testing
- Soil Stabilization
- Special Subgrade Problems
- Filtration and Drainage

Day 3:

- Earthworks and Construction Materials
- Recycled Pavement Materials
- Construction: QC/QA
- Geo-synthetic Improvement
- Sub -base and Surface Treatment

Day 4:

- Bad Soils in Existing Roads
- Unpaved Roads
- Types of road pavement
- Pavement layers
- Concrete Pavement Design
- Bituminous Materials for Pavement Construction

Day 5:

- Traffic loads and Structural Design of Pavements
- Design of asphalt mixes using Marshall design method
- Stresses in flexible pavement
- Empirical Flexible Pavement Design
- Rigid Pavement Design

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:

To be advised as per course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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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