SCANDINAVIAN ACADEMY
For Training and Development

Course: Road Pavement Design

Code	City	Hotel	Start	End	Price	Language - Hours
CV-925	Kuwait (Kuwait)	Hotel Meeting Room	2026-06-07	2026-06-11	3450 €	En - 25

Introduction

Road pavement design is a fundamental aspect of modern infrastructure development, ensuring safe, durable, and cost-effective roads. This course provides engineers, planners, and infrastructure professionals with the necessary knowledge and practical skills to design pavements that meet international standards, considering factors such as traffic loads, climate, and maintenance requirements.

General Goal

To equip participants with advanced knowledge and practical competencies in road pavement design, enabling them to apply engineering principles, international standards, and modern technologies to deliver high-quality and sustainable road networks.

Detailed Objectives

By the end of the program, participants will be able to:

- Understand the principles and methodologies of road pavement design.
- Apply international standards and specifications in pavement projects.
- Analyze traffic load data and its impact on pavement performance.
- Evaluate different pavement materials for optimal design.
- Implement modern technologies and software in pavement design.
- Develop maintenance and rehabilitation plans for road pavements.

Target Audience

- Civil engineers specializing in transportation and infrastructure.
- Road design and construction project managers.
- Government and municipal infrastructure planners.
- Quality control engineers in road projects.
- Pavement materials specialists.
- Consultants and contractors in the road construction industry.

Course Outline

Unit 1: Fundamentals of Road Pavement Design

- Introduction to pavement types (flexible, rigid, composite).
- Basic design principles and concepts.
- Pavement structural layers and their functions.
- Role of subgrade and sub-base in pavement performance.
- Traffic loading and classification.
- Overview of international pavement design standards.

Unit 2: Pavement Materials and Specifications

- Properties of asphalt and concrete in pavement applications.
- Selection criteria for pavement materials.
- Testing and quality control for aggregates.
- Influence of climate on material selection.
- Sustainability and eco-friendly material options.
- International specifications for pavement materials.

Unit 3: Pavement Design Methods and Calculations

- AASHTO and other design methodologies.

- Layer thickness determination and calculations.
- Load distribution and structural analysis.
- Using traffic data for pavement design.
- Incorporating safety factors in design.
- Case studies of successful pavement design projects.

Unit 4: Modern Tools and Technologies in Pavement Design

- Software applications for pavement design (e.g., HDM-4, AASHTOWare).
- GIS integration in road design and planning.
- Use of sensors and smart technologies in pavement monitoring.
- Advanced construction techniques for better durability.
- Innovations in pavement recycling and rehabilitation.
- International trends in pavement engineering.

Unit 5: Pavement Maintenance and Rehabilitation Planning

- Importance of preventive maintenance in road pavements.
- Pavement distress identification and evaluation.
- Rehabilitation techniques for flexible and rigid pavements.
- Cost estimation and budgeting for maintenance.
- Lifecycle analysis of pavement projects.
- Developing a sustainable pavement management system.

The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

Program Timings:

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.