



**SCANDINAVIAN ACADEMY**  
For Training and Development

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# Course: Storm Water Drainage Study and Design

Code	City	Hotel	Start	End	Price	Language - Hours
573	Manama (Bahrain)	Hotel Meeting Room	2025-10-19	2025-10-23	2950 €	En - 25

## Objectives

- Understand storm water drainage importance in society
- Determine storm water Drainage systems requirements for a given community
- Understand procedures for analysis and design of storm water drainage systems

## Daily Outline

### Day One: Introduction, General information and Hydrology

#### Fundamental Hydrology for Sewer Design

- Factors affecting Floods
- Design frequency criteria
- Drainage Basins
- Storm water flow

#### Runoff computation methods (Rational Formula, Hydrograph Methods and others...)

### Day Two: Storm Drainage Systems

- Storm Water Drainage Systems Components



- Pavement Drainage
- Gutter Flow
- Storm Water Inlets
- Storm Drains

### **Day Three: Hydraulics of Sewers**

- Fundamental Hydraulic for Sewer Design
- Manning's Formula
- Solution of Manning's equation for circular pipes
- Design of Sewer Systems
- Preliminary Design
- Detailed Design
- iii. Principles of Design
- Providing Quality and
- Professional Training Since 1984

### **Day Four: Design Procedures and Preliminary Design**

- Storm Water Drainage Sewers
- Culverts
- Ponds
- Drainage Well

### **Day Five: Practical problems**

- Open Discussions



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.