SCANDINAVIAN ACADEMY
For Training and Development

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Course: Water Flooding Design, Management, and Monitoring

Code	City	Hotel	Start	End	Price	Language - Hours
OG-898	Zagreb (Croatia)	Hotel Meeting	2026-03-23	2026-03-27	5450 €	En - 25

Course Overview

This comprehensive training course equips participants with the knowledge and practical tools to effectively design, manage, and monitor water flooding projects in oilfields. Blending theoretical foundations with field-based applications, the course aims to enhance oil recovery, improve reservoir performance, and support optimal production strategies.

Target Audience

- Reservoir Engineers
- Production Engineers
- Petroleum Engineers
- Asset Managers
- Technical Staff in Enhanced Oil Recovery (EOR) Projects

Course Objectives

- Understand the principles, benefits, and challenges of water flooding
- Design effective water injection schemes tailored to specific reservoirs
- Analyze sweep efficiency and calculate recovery factors
- Monitor and interpret reservoir performance using KPIs and advanced surveillance tools
- Optimize water injection strategies using real-time data and best practices

Course Outline

Day 1 – Fundamentals and Screening

- Overview of Enhanced Oil Recovery (EOR) techniques with a focus on water flooding
- Fundamentals of multiphase flow in porous media and displacement mechanisms
- Reservoir selection and screening criteria for successful water flooding applications
- Comparative analysis of water flooding versus other EOR techniques
- Case studies of screened reservoirs and outcomes of implemented water flooding projects

Day 2 – Injection Design and Planning

- Design methodology for water injection projects
- Well pattern optimization: 5-spot, 7-spot, line drive, and peripheral injection
- Determination of injection rates and balancing reservoir voidage replacement
- Integration of reservoir simulation tools for injection planning
- Sensitivity analysis of injection parameters on recovery efficiency

Day 3 – Water Supply and Surface Facilities

- Assessment and selection of water sources (produced water, seawater, aquifers)
- Water treatment technologies to meet injection standards
- Design and layout of surface facilities for water transportation and injection
- Corrosion control and material selection for surface and subsurface systems
- Environmental and economic considerations in water sourcing and infrastructure design

Day 4 – Performance Monitoring and Data Analysis

- Techniques for monitoring reservoir response to water injection
- Reservoir surveillance tools: tracers, saturation logs, pressure transient analysis
- Field case studies showcasing performance improvement through water flooding
- KPI development and dashboarding for water flood management
- Real-time data acquisition and integration with reservoir models

Day 5 – Optimization and Practical Implementation

- Managing injectivity issues, corrosion, and scaling in injection wells
- Optimization strategies: balancing injection and production for improved recovery
- Risk assessment and contingency planning in water flooding operations
- Application of AI and machine learning in flood optimization
- Interactive workshop: participants will analyze a real or hypothetical field and design a water flooding strategy

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.