TECHNICAL EDUCATION ACADEMY

School of Engineering

COURSE PROGRAMME

000107

PROD011 - Produced Water Management

The cost-effective management of oilfield produced waters requires the successful integration of a great many activities and skills.



Learn from the Best in the Business!

Course overview

Intermediate level

Why take this course

The cost-effective management of oilfield produced waters requires the successful integration of a great many activities and skills. Many of those skills, such as production chemistry, corrosion engineering and microbiology, are becoming increasingly rare both in oil companies and in their service companies.

Typical problems include above limit oil-in-water concentrations which require cut-backs or no increases in oil production rates, and high downtime due to corrosion, scale blockages, etc, with extremely high costs ensuing from lost oil production.

This Produced Water Management training course provides an overview of the main water handling systems typically encountered in upstream Exploration and Production operations in oil and gas industry. The chemistry of the main water-related problems of mineral scales, corrosion, bacteria, and oily water will be reviewed both from the theoretical and practical aspects. Produced water treatment equipment and typical water quality specifications will also be reviewed, as well as water injection and disposal systems.

Who it is for and how it helps

Managers, engineers, chemists, and operators needing to understand water-related problems in oil and gas production and their solutions.

What you will learn

- Learn the chemistry and physics of well bore pore blockage, scaling, and corrosion
- Appreciate the biochemical effects of bacterial growth in flooding operations
- Understand the physics as well as the mechanics of proper oil and water separation
- Appreciate the importance of reusing produced/ formation water
- Learn practical techniques for produced water treatment and its management
- Appreciate from first principles the scaling process and understand the chemistry and thermodynamics of scaling

Curriculum

Modules 01–04

01 Introduction to the water cycle

- Reservoir issues
- Introduction to water flow
- Diagnostic methods
- Reservoir solutions

02 Producing wells

- Water problem types
- Nodal analysis for water
- Logging for water
- Diagnostic methods
- Producing well solutions

03 The problems associated with Produced Water

- The mechanics of water production
- Corrosion problems
- Scale problems
- Transportation problems
- Disposal problems

04 The Basics of Produced Water Treatment

- Primary separation
- Gravity separation
- Coalescence
- Short distance gravity separation
- Gas floatation
- Centrifugal force separation
- Chemical treatment

Curriculum

Modules 05–07

05 Produced Water Cleaning Equipment

- API separators
- Plate interceptors (or separators)
- Oil / water filter coalescers
- Gas floatation unit
- Hydrocyclones
- Use of chemical additives

06 Typical Produced Water System

- Tilting plate separators
- The floatation unit
- Chemical dosing package
- Produced water caisson

07 Produced Water Disposal

- Water injection and disposal systems
- Injection mechanisms and problem types
- Diagnostic methods
- Injector solutions
- Treatment and disposal of produced water
- Transportation problems
- De-oiling / soluble organics removal
- Desalination / disinfection
- Evaporative processes
- Wastewater recycle / reuse

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000107 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

Learn from the Best in the Business!