



Waterflooding A to Z - WF

COURSE

About the Course

Waterflooding has long been proven as the simplest and the lowest cost approach to maintaining production and increasing oil recovery from an oil reservoir. However, these benefits may fall far short of the expectations unless the time-tested concepts and practices are clearly understood and judiciously implemented. These concepts and practices aim at process optimization - reducing production cost while minimizing waste and maximizing oil recovery and income.

This course is light on theory but heavy on proven and successful practices. Published case histories of projects around the world are reviewed to provide an understanding of divergent points-of-view, what works where, what fails when, and why. This training covers all elements of a waterflood project from A to Z - from source water selection to produced water disposal and everything in between. Participants are grouped into small multi-disciplinary teams. All classroom discussions and problem-solving sessions are handled in an asset management team format. Simulation studies are done in class to evaluate basic waterflooding physics as well as to optimize the development of a hypothetical field.

The course covers conventional reservoirs.

"I liked the course a lot, first because of the good interaction of the instructor with us. Then the material emphasized in the course was clear. The questions answered by the instructor in the beginning of the class was a very good way to clarify any material that was not understood at the previous class." - Reservoir Engineer, Angola

Target Audience

Reservoir, production, facilities, and operations engineers who are involved with some aspects of a new or existing waterflood project; geoscientists and professionals who want to get a better feel for the entire process of planning, development, management, and recovery optimization of a waterflood project.

You Will Learn

Participants will learn how to:

- Distinguish rock characteristics and fluid properties that control displacement of oil and thereby control oil recovery
- Predict incremental oil recovery and develop production and injection profiles using a variety of tools.

- Estimate injection water requirements in terms of volumes, timing, and composition
- Create early warning systems for flood management and optimize oil recovery through new and existing technologies
- Specify components of a well-designed waterflood plan

Course Content

- Overview & terminology
- Effect of rock properties
- Effect of heterogeneity and anisotropy
- Effect of fluid properties
- Wettability
- Capillary pressure
- Relative permeability
- Physics of water displacing oil
- Statistical forecasting
- Analytical forecasting
- Numerical forecasting
- Injector monitoring
- Producer monitoring
- Integrated monitoring
- Effect of water impurities
- Surface processing of injection and produced water
- Water shut-off
- Pattern rotation
- Natural & hydraulic fractures
- Horizontal well applications
- Downhole separation
- Enhanced waterfloods
- Waterflood planning
- Many case histories

Product Details

Categories: Upstream

Disciplines: Reservoir Engineering

Levels: Foundation

Product Type: Course

Formats Available: In-Classroom Virtual

Instructors: PetroSkills Specialist Richard Henry

In-Classroom Format

12 Aug '24	16 Aug '24	-		Course		In-Classroom (in London)	\$5,485.00
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21 Oct '24	25 Oct '24	-		Course		In-Classroom (in Houston)	\$4,710.00
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Virtual Format

6 May '24	17 May '24	-		Course		Virtual (Houston UTC)	\$4,070.00
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