

Course Title

Operate Water Treatment Facilities & Water Flooding Principles

Credit Hours

As Scheduled

Venue

As Scheduled

Date

As Scheduled

Objectives

- **By the end of this Course participants will be able to:**
 - ✓ Empower with an overview on the different water treatment methods, for water injection plants either by produced water or seawater and also provides the latest technology in the De-aeration of water either by vacuum or gas stripping towers.
 - ✓ Select the appropriate technology for their new water injection plants and protect their surrounding environment.
 - ✓ Describe and apply surface and subsurface water flooding
 - ✓ Understand and apply analytical and prediction methods
 - ✓ Choose a candidate reservoir for water flooding
 - ✓ Identify various components and function of a water flooding plant
 - ✓ Identify water flood problems and how to solve them

The Delegates

- ✓ Supervisors, engineers, chemists and technicians
- ✓ Petroleum Production & Reservoir Engineers
- ✓ Field Operators & Controllers (Water Handling)
- ✓ Processing engineers & other discipline engineers
- ✓ Geologists & Petro physicists
- ✓ Engineers who are new to the profession
- ✓ Other individuals who need to know about water flooding

Contents

- **Introduction and Course overview.**
- **Water sampling and analysis**
 - ✓ Chemical and physical properties
 - ✓ Qualitative analysis oil field
 - ✓ Oil in water analysis
 - ✓ Suspended solid analysis
 - ✓ Particle size analysis
 - ✓ Water quality
 - ✓ Turbidity
 - ✓ Field water analysis
- **Water formed scale**
 - ✓ Predicting scale calculation
 - ✓ Scale formation
 - ✓ Preventing scale formation
 - ✓ Processing technology
 - ✓ Mixing water – compatibility
 - ✓ Scale control chemicals
- **Corrosion control**

- ✓ Theory of corrosion
- ✓ The effect of metal composition
- ✓ Effect of water composition
- ✓ Corrosion control methods
- ✓ Corrosion inhibitor
- ✓ Internal coating and cathodic protection
- ✓ Dissolved gas removal
- ✓ Corrosion monitoring
- ✓ Design to minimize corrosion
- **Water treatment microbiology**
 - ✓ Microorganism found in oil field water system
 - ✓ Chemical control of microbiology
 - ✓ Chlorination
 - ✓ Chemical selection and evaluation
 - ✓ Evaluation of chemical treating program
- **Water processing technology**
 - ✓ Dissolved gas removal
 - ✓ Chemical removal of dissolved oxygen
 - ✓ Removal of hydrogen sulfide from water
 - ✓ Filtration
 - ✓ Suspended oil removal
 - ✓ Flotation cells
 - ✓ Coalescing
 - ✓ Hydrosyclon
- **Water injection system**
 - ✓ Water sensitive formation
 - ✓ Water source selection
 - ✓ Scaling tendency
 - ✓ Water compatibility
 - ✓ Suspended solid
 - ✓ Water quality
 - ✓ Bacteria
 - ✓ Oil content
 - ✓ treating system
- **Water injection system inspection and analysis**
 - ✓ Inspection and analysis
 - ✓ Calcium and barium
 - ✓ Sulfate
 - ✓ Scaling calculation
 - ✓ Temperature
 - ✓ Hydrogen sulfate
 - ✓ Turbidity
 - ✓ Corrosion rate
 - ✓ Oxygen concentration
 - ✓ Filter operation bacteria count

- **Reservoir Properties and Design Factors of Water Flooding**
 - ✓ Definition and history of water flooding
 - ✓ Water flood performance measurements
 - ✓ Water sources of sweep water, good water and bad water
 - ✓ Important factors to consider in water flooding design
 - ✓ Types of water flood patterns and selection of a flood pattern
 - ✓ Important rock/fluid properties for reservoir engineering calculation
- **Problems/Solutions of Water Flooding**
 - ✓ Phenomena of water fingering and tonguing
 - ✓ Casing, tubing or packer leaks and channel flow behind casing
 - ✓ Moving oil-water contact and watered-out layer without crossflow
 - ✓ Fractures or faults between injector and producer
 - ✓ Calculation of critical rate for water coning
 - ✓ Using reservoir simulation for water flood optimization
- **Water Control Solutions**
 - ✓ Mechanical solutions for water-control problems
 - ✓ Chemical solutions and squeeze cement treatments
 - ✓ Rigid gels for near wellbore shutoff of excess water
 - ✓ Injector problems and risk assessments
 - ✓ Field-wide considerations for water flooding
 - ✓ An integrated approach for cost saving operations
- **Course summary.**

Notes:

- Great Discount for companies and governmental Organizations .
- All programs are held in five star hotels .
- All lecturers have sufficient knowledge and experience to implement the programs at an optimal level .
- Large package of services is offered to the participants .

Discount	Language	Fees
10% in case of Three P. (or more)	English & Arabic	As Scheduled
Timetable	How to Register ?	Other Dates
9 Am : 11 Am 11.30 Am : 1 Pm 1.30 Pm : 3 Pm	www.titlehr.com Info@titlehr.com Tell 00971559687070	As Scheduled