

## Production Courses, cont.

### *New Course Held in Odessa and Houston*

## Basic EOR (Enhanced Oil Recovery)

2.3 CEUs

**Length:** 3 days

- Define EOR and why EOR
- Describe displacement fundamentals—vertical and areal sweep efficiency
- Introduction to polymer flooding from polymer chemistry to laboratory tests and field examples
- Review of surfactant/alkaline/polymer flooding with experiences in basic laboratory tests and some field pilots
- Other chemical test for sweep improvement and profile modifications (gels and foam)
- Analyzing thermal methods with process variations (steam, CCS, in situ combustion, SAGD)
- Fundamentals of gas flooding (HC, CO<sub>2</sub>, air and N<sub>2</sub>) with examples of laboratory and field responses

### Recommended For

Engineers, geoscientists, management personnel or other technical personnel with at least a B.S. degree with some experience in reservoir engineering. Benefits individuals who are responsible for the design, implementation, and management of EOR projects. Also beneficial for other technical personnel involved in numerical simulation studies, screening, and planning of EOR applications. This course may interest new recruits as well as experienced professionals.

### Enrollment Information

Your company is invited to participate in these training programs. For additional information, contact—

PETEX  
Houston Training Center  
The University of Texas  
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Houston, TX 77073  
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*For more info about PETEX, check out our Web site at [www.utexas.edu/ce/petex](http://www.utexas.edu/ce/petex)*



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CONTINUING EDUCATION  
PETROLEUM EXTENSION SERVICE  
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THE UNIVERSITY OF TEXAS



## PETEX Production Courses

- Production Technology
- Completion and Workover
- Basic EOR (Enhanced Oil Recovery)

## Production Technology

7.1 CEUs

Length: 9½ days or Subsurface: 5 days (3.8 CEUs)  
Surface: 4½ days (3.3 CEUs)

### 1st Week—Subsurface

#### RESERVOIR FUNDAMENTALS

- Reservoir rock characteristics
- Reservoir fluids
- Fluid flow
- Overview of reservoir drives
- Methods of determining reserves
- Reservoir stimulation

#### NATURAL DRIVE MECHANISMS

- Water drive
- Dissolved gas drive
- Gas-cap expansion drive
- Combination drive

#### WELLHEAD EQUIPMENT

- Equipment overview
- Equipment types
- Installation, testing, maintenance
- Wireline equipment

#### ARTIFICIAL LIFT MECHANISMS

- Artificial lift methods
- Artificial lift selection criteria
- Electric submersible pumps
- Sucker rod pumping
- Progressive cavity pumps
- Hydraulic jet pumps
- Capillary injection string
- Plunger lift
- Gas lift

#### ENHANCED RECOVERY

- Well performance and surveillance
- Secondary recovery
- Waterflood
- Chemical methods
- Miscible methods
- Thermal methods
- Tertiary/CO<sub>2</sub> recovery

#### OFFSHORE PRODUCTION—SPECIAL CONSIDERATIONS

### 2nd Week—Surface

#### PRODUCTION OPERATIONS PRACTICES

##### SEPARATION

- Multi-phase fluids
- Separating gas and liquids
- Separating liquids and condensate
- Test separators

##### TREATING LIQUIDS

- Liquid dehydration
- Free water knockout
- Valves and controls

##### TREATING GAS

- Dehydration
- Gas treating
- Safety

##### MEASURING LIQUIDS AND GASES

- Measuring liquids
- Gas measurement

##### PRODUCED WATER MANAGEMENT AND DISPOSAL

##### LEASE AUTOMATION AND EMERGENCY SHUTDOWN

- Types of equipment
- Human/machine interface
- Master
- Communications
- RTU
- End devices
- SCADA system
- Types of ESD systems
- Maintenance and safety considerations

## Production Technology, cont.

### OIL AND GAS CORROSION

#### Recommended For

Technicians, foremen, production operators, and workover personnel

## Completion and Workover

7.1 CEUs

Length: 9½ days or 1st Week: 5 days (3.8 CEUs)  
2nd Week: 4½ days (3.3 CEUs)

### 1st Week

#### PLANNING THE JOB

- Rotary vs service rig
- Equipment checklist
- Logistics—scheduling

#### PIPE RECOVERY

- Freepoint backoff operations
- Jet cutter operation
- Chemical cutter operations

#### FISHING

- Loose junk
- Wireline fishing
- Specialized tools

#### WIRELINE OPERATIONS

- Surface equipment
- Wireline tools

#### WELL LOGGING

- Open-hole logging
- Fluids
- Collar logs
- Cement bond logs

#### SELECTION OF DOWNHOLE EQUIPMENT

- Packers
- Seal assemblies
- Landing nipples
- Preparation for future downhole work

#### SOLVENT AND CHEMICAL TREATING, SCALE AND PARAFFIN REMOVAL AND CONTROL

- Types of scale deposits and scale deposits
- Applications and restrictions
- Formation damage
- Safety consideration

#### COMPLETION FLUID

- Safety & environmental considerations
- Fluids
- Guidelines & issues
- Brine economics
- Fluid loss control material/selection
- Displacements
- Mass balance

#### CASING AND TUBING

- Selection and use of casing, tubing, and drill pipe
- String design considerations

#### SAND, CLAY, AND WATER CONTROL

- Gravel pack
- Screen and liner

## Completion and Workover, cont.

### 2nd Week

#### PERFORATING

- Casing
- Down tubing
- Unbalanced
- Jet vs fluid

#### FRACTURING

- Purpose of fracturing
- Mini-fracturing
- Fracturing fluids selection

#### PRIMARY CEMENTING AND SQUEEZING

- Mud displacement
- Bond logging
- Cement and additives
- Plug cementing
- Squeeze cementing
- Cement durability

#### DEEPENING OPERATIONS AND SIDETRACKING

- Drill out below casing
- Cut window and sidetrack

#### LINERS

- Applications
- Liner hangers
- Running liner in well
- Hanging liner
- Disconnect running tool
- Cementing liner

#### COIL TUBING AND NITROGEN

- Application
- Tools and equipment
- Safety considerations

#### PRIMARY TESTING

- Pour point
- Bottomhole samples
- Swab test
- Bottom pressure buildup test

#### EVALUATION OF TESTS

- Absolute open flow
- Gas and oil analysis
- H<sub>2</sub>S analysis
- GOR determination

#### ACCIDENT PREVENTION

#### Recommended For

Technicians, foremen, and supervisory-level production operators, workover personnel, and drilling personnel

*Need on-site training?  
These courses can be customized  
to meet your company's needs.  
For more information please call  
281.443.7144.*

