

# **Capstone Design: Planning Oil & Gas Reservoirs development from A to Z**

## **Production and Well Intervention**

**Reference : CD-E**

## **Who should attend**

**Drilling, Production  
& Reservoir Engineers.**

## **Instructor**

**Dr. Fathi H. BOUKADI**

## **Duration**

**20 Days ( 4 Weeks)**

## **Location**

**Gammarth, Tunis**

## **Language**

**English**

## **Fees/Trainee**

**9500 TND**

## **Course Content (1/2)**

In this course, trainees are prepared for engineering practice through curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating engineering standards and realistic constraints that include most of the following considerations: (1) economic; (2) environmental; (3) sustainability; (4) manufacturability; (5) ethical; (6) health and safety; (7) and social.

Trainees will integrate all facets of Petroleum Engineering in a capstone design experience. Trainees will analyze Geological data, identify traps and geological features, design Drilling programs, recommend logging tools for Formation Evaluation purposes, and devise Completion and Stimulation (if appropriate) plans. Trainees will also integrate knowledge of Well Testing, Production, Reservoir Simulation, Economics, and Health, Safety, and the Environment to generate a comprehensive Plan Of Development (POD).

### **DAY 1 & 2:**

For oil and gas case studies;

- \* Analyze geological data.
- \* Construct geological maps/cross-sections/views, etc.
- \* Identify hydrocarbon trap(s).

### **DAY 3 & 4:**

For same oil and gas case studies;

- \* Devise mud programs.
- \* Devise casing programs.
- \* Devise cement programs.

### **DAY 5 & 6:**

For same oil and gas case studies;

- \* Design completion programs.
- \* Design stimulation programs (if needed).
- \* Design well testing programs.

**Dr. Fathi H. BOUKADI**

PhD, The Pennsylvania State University, USA. LAGCOE/BOR Endowed Professor & Head of Department of Petroleum Engineering the University of Louisiana, USA. Over 23 years of industrial and teaching experience, Dr. Boukadi has published more than 110 papers and industrial reports and raised more than 50 million dollars worth of research expenditures and donations.

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## **Course Content (2/2)**

### **DAY 7 & 8:**

For same oil and gas case studies;

- \* Estimate hydrocarbon-initially-in-place.
- \* Analyze rock, fluid, and rock and fluid properties.
- \* Propose optimized tubing designs using nodal analysis.

### **DAY 9 & 10:**

For oil case study;

- \* Develop conceptual reservoir simulation model.

### **DAY 11 & 12:**

For oil case study;

- \* Perform simulation sensitivity addressing design issues of:
  - Well configuration (vertical/horizontal).
  - Well spacing.

### **DAY 13 & 14:**

For oil case study;

- \* Perform simulation sensitivity addressing design issues of Well lifting/Reservoir pressure maintenance.
- \* Perform economic feasibility study.
- \* Address health, safety, and the environment (HSE).
- \* Address sustainability, manufacturability, ethical, and social aspects of oil case study – culminate in POD.

### **DAY 15, 16 & 17:**

For gas case study;

- \* Develop conceptual reservoir simulation model.

### **DAY 18, 19 & 20:**

For gas case study;

- \* Perform simulation sensitivity addressing design issues of:
  - Well configuration (vertical/horizontal).
  - Well spacing.
- \* Perform economic feasibility study.
- \* Address health, safety, and the environment (HSE).
- \* Address sustainability, manufacturability, ethical, and social aspects of gas case study – culminate in POD.

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