Advanced Production and Field Development Planning Training Course

19 - 23 Oct 2026

California

7900 € (Per Person)

Ref: #OG2609_98863

Course Introduction / Overview:

This comprehensive course provides an integrated approach to mastering advanced production technologies and strategic field development planning. In today's complex energy landscape, optimizing hydrocarbon recovery requires a seamless fusion of subsurface engineering excellence and robust, long-term planning. This program is designed to bridge that gap, equipping professionals with the skills to enhance production from existing assets and to conceptualize, design, and execute new field development plans effectively. Drawing on principles outlined by leading experts like Tarek Ahmed in his seminal work, "Reservoir Engineering Handbook," the curriculum delves into the entire asset lifecycle. Participants will explore everything from well performance analysis and artificial lift systems to complex economic modeling and risk assessment. BIG BEN Training Center has structured this course to move beyond theoretical knowledge, focusing on practical application and data-driven decision-making. It addresses the critical need for professionals who can not only understand advanced production systems but also strategically plan for maximum economic recovery while considering operational and environmental constraints.

Target Audience / This training course is suitable for:

- Production Engineers.
- Reservoir Engineers.
- Petroleum Engineers.
- Geoscientists and Geologists.
- Field Development Planners.
- Asset Managers.
- Production Technologists.
- Facilities Engineers.
- Project Managers in the E&P sector.
- Technical Team Leaders.
- Drilling and Completions Engineers.

Target Sectors and Industries:

- Upstream Oil and Gas Companies.
- National Oil Companies (NOCs).
- International Oil Companies (IOCs).
- Independent Oil and Gas Operators.
- Energy Sector Consulting Firms.
- Oilfield Service Companies.
- Governmental bodies and regulatory agencies in the energy sector.
- Financial institutions investing in energy projects.

Target Organizations Departments:

- Production and Operations.
- Reservoir Engineering and Management.
- Subsurface and Geoscience Teams.
- Field Development and Planning.
- Asset Management Teams.
- Exploration and Production (E&P) Units.
- New Ventures Departments.
- Corporate Strategy and Planning.
- Engineering and Project Management.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze and interpret well and reservoir performance data to diagnose production issues.
- Evaluate and select the most appropriate artificial lift systems for different field conditions.
- Develop a structured methodology for creating comprehensive Field Development Plans (FDPs).
- Conduct robust economic evaluations and risk assessments for development projects.
- Integrate advanced production technologies, including EOR and digital oilfield concepts, into planning.
- Optimize production systems for maximum efficiency and hydrocarbon recovery.
- Formulate strategies for managing mature fields and extending asset life.
- Understand the interface between subsurface characterization and surface facilities design.
- Prepare and present compelling business cases for field development projects.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, immersive, and practical, ensuring that participants can directly apply the learned concepts to their professional roles. The course moves beyond traditional lectures by incorporating a blend of expert-led presentations, in-depth case studies of real-world field development projects, and collaborative group workshops. Participants will engage in hands-on exercises, including the simulation of production optimization scenarios and the development of a preliminary Field Development Plan (FDP) for a given dataset. Interactive sessions will encourage open discussion, problem-solving, and the sharing of experiences among peers from diverse backgrounds. The instructor will facilitate these discussions, providing personalized feedback and guiding teams through complex decision-making processes. This dynamic learning environment fosters a deep understanding of the integration between production technology and strategic planning, empowering attendees with both the knowledge and the confidence to tackle complex challenges in their organizations.

Course Agenda (Course Units):

Unit One: Fundamentals of Production System and Reservoir Performance

- Introduction to the complete production system from reservoir to surface.
- Reservoir fluid properties and phase behavior (PVT analysis).
- Reservoir drive mechanisms and their impact on recovery.
- Fundamentals of inflow performance relationship (IPR) for oil and gas wells.
- Wellbore hydraulics and outflow performance (tubing performance curve).
- Nodal analysis for production system optimization and problem diagnosis.
- Understanding and forecasting production decline curves.

Unit Two: Well Completion, Stimulation, and Artificial Lift Systems

- Modern well completion design and technology.
- Formation damage assessment, prevention, and remediation.
- Principles and application of well stimulation techniques (hydraulic fracturing and acidizing).
- Overview of artificial lift methods and selection criteria.
- In-depth analysis of Gas Lift systems design and optimization.
- Design and operation of Electrical Submersible Pumps (ESPs).
- Sucker Rod Pumping (SRP) and other lift methods.

Unit Three: Integrated Field Development Planning (FDP) Process

- The FDP lifecycle from discovery to abandonment.
- Key components and structure of a robust Field Development Plan.
- Data gathering, quality control, and uncertainty management.
- Subsurface evaluation and reservoir modeling for development planning.
- Concept selection and screening for development options.
- Integrating drilling, completions, and surface facilities planning.
- Stakeholder management and regulatory approval processes.

Unit Four: Surface Facilities and Economic Evaluation

- Overview of surface production facilities design and processing.
- Oil, gas, and water separation and treatment systems.
- Pipeline and export system considerations.
- Project cost estimation (CAPEX and OPEX).
- Petroleum economics, cash flow analysis, and key performance indicators (NPV, IRR, P/I).
- Decision analysis under uncertainty and risk management techniques.
- Building the economic model for a field development project.

Unit Five: Advanced Technologies and Asset Management

- Enhanced Oil Recovery (EOR) screening and project design.
- The role of digital oilfield technologies and data analytics in production optimization.
- Strategies for managing mature fields and brownfield redevelopment.
- Challenges and technologies for unconventional and offshore resource development.
- Integrating sustainability and environmental considerations into FDP.
- Asset integrity and lifecycle management.
- Final project workshop: Developing and presenting a mini-FDP.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can modern field development plans effectively integrate long-term sustainability and environmental stewardship with the primary objective of maximizing economic recovery?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a truly integrated perspective that systematically bridges the critical gap between subsurface production engineering and high-level strategic field development planning. While many courses focus on either the technical specifics of production technology or the management aspects of planning, this program synthesizes both into a cohesive, actionable framework. The curriculum is built around a practical, decision-oriented approach, moving participants beyond theoretical knowledge to the application of concepts through realistic case studies and FDP simulation workshops. It emphasizes the "why" behind technical choices, linking well-level decisions to overall asset value and long-term economic performance. Furthermore, the course is forward-looking, dedicating significant time to advanced technologies such as digital oilfield applications and EOR, as well as the increasingly vital considerations of sustainability and asset lifecycle management. This holistic view ensures that graduates are not just proficient engineers or planners, but well-rounded asset managers capable of navigating the complexities of the modern energy industry and delivering superior project outcomes.