Datastat Research
Building Capacity in Training and Research

# DATASTAT TRAINING IN

OFFICIAL COURSE PROSPECTUS

Center for Advanced Research & Professional Development

Nairobi Training Center • Global Virtual Academy • Corporate On-Site

OIL AND GAS

# Deepwater Field Development Engineering Training Course

Comprehensive Course Syllabus, Practical Modules & Upcoming Schedules

## PROGRAM SPECIFICATIONS & HIGHLIGHTS

**DURATION**
**5 Days Practical Hands-on**

**DELIVERY MODES**
**In-Person Class & Live Virtual**

**CERTIFICATION**
**Accredited Certificate of Completion**

**INTAKES / DATES**
**Multiple Cohort Schedules Included**

PREPARED FOR:

**Valued Participant**

Email: training@datastatresearch.org | Issued: November 21, 2026

**Academic & Professional Training Year: 2026**

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# Deepwater Field Development Engineering Training Course

**Oil and Gas • 5 Days Intensive • Accredited Certification**

## Course Overview

Deepwater Field Development Engineering Training Course is designed to equip oil and gas professionals with advanced technical knowledge and practical skills required to plan, evaluate, design, and optimize offshore deepwater oil and gas developments.

### Key Skills & Software Tools Covered

Field Development Planning • Subsea Engineering • Reservoir Optimization • Offshore Production

## Upcoming Training Schedules

Confirmed cohort intakes and venues. Both physical in-person classroom and live virtual online seats are available.

| TRAINING DATES | LOCATION / VENUE | FORMAT / DURATION | INVESTMENT (FEE) |
|---|---|---|---|
| **12 Oct 2026 – 16 Oct 2026** | Nairobi | Classroom / 5d | **$1,500 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Kigali | Classroom / 5d | **$3,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Dubai | Classroom / 5d | **$5,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Cape Town | Classroom / 5d | **$4,500 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Addis Ababa | Classroom / 5d | **$3,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Singapore | Classroom / 5d | **$5,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Istanbul | Classroom / 5d | **$5,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Bangkok | Classroom / 5d | **$5,000 USD / KES 110,000** |
| **12 Oct 2026 – 16 Oct 2026** | Accra | Classroom / 5d | **$4,000 USD / KES 110,000** |
| **19 Oct 2026 – 23 Oct 2026** | Nairobi | Classroom / 5d | **$1,500 USD / KES 110,000** |
| **19 Oct 2026 – 23 Oct 2026** | Kigali | Classroom / 5d | **$3,000 USD / KES 110,000** |
| **19 Oct 2026 – 23 Oct 2026** | Dubai | Classroom / 5d | **$5,000 USD / KES 110,000** |

* Corporate discounts and customized cohort scheduling are available for teams of 3 or more participants.

## Course Curriculum & Modules

**Deepwater Field Development Engineering Training Course**

**Introduction**

**Deepwater Field Development Engineering Training Course is designed to equip oil and gas professionals with advanced technical knowledge and practical skills required to plan, evaluate, design, and optimize offshore deepwater oil and gas developments. As exploration and production activities expand into deeper and more technically challenging marine environments, organizations require specialized expertise in deepwater reservoir engineering, subsea production systems, offshore platform design, flow assurance, well engineering, field development planning, and production optimization. This course explores the complete deepwater project lifecycle, from exploration appraisal and reservoir characterization to concept selection, engineering design, facilities development, commissioning, and long-term production management. Participants will examine the application of reservoir simulation, subsea architecture, floating production systems, riser technologies, offshore pipeline engineering, digital oilfield solutions, and integrated asset modeling to develop technically feasible, economically viable, and operationally reliable deepwater projects.**

**The training also emphasizes deepwater project economics, risk-based engineering, environmental sustainability, offshore safety management, carbon emissions reduction, and emerging digital technologies that support modern offshore developments. Participants will learn how to integrate geological, geophysical, reservoir, drilling, subsea, facilities, and commercial disciplines into a coordinated field development strategy. Through engineering exercises, technical discussions, simulation-based learning, and industry-inspired case studies, learners will assess development concepts, identify technical uncertainties, evaluate capital expenditure, improve recovery strategies, and manage complex offshore project interfaces. The course is suitable for professionals seeking to strengthen their capabilities in deepwater engineering, subsea field development, offshore project management, integrated asset planning, and lifecycle cost optimization, enabling them to contribute effectively to safer, more efficient, and commercially competitive deepwater oil and gas operations.**

**Course Duration**

**5 days**

## Course Objectives

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

- Explain the fundamental principles of deepwater field development engineering and the offshore oil and gas project lifecycle.
- Evaluate geological, geophysical, and reservoir data for deepwater exploration appraisal and resource assessment.
- Develop integrated field development plans using reservoir modeling, production forecasting, and recovery optimization.
- Compare offshore development concepts, including subsea tiebacks, floating production storage and offloading (FPSO) systems, and floating production platforms.
- Assess subsea production architecture, including subsea trees, manifolds, control systems, umbilicals, and subsea boosting technologies.
- Apply deepwater drilling and well completion engineering principles to support safe and reliable production.
- Identify and mitigate flow assurance risks, including hydrate formation, wax deposition, asphaltene precipitation, and multiphase flow instability.
- Evaluate offshore pipelines, risers, and flowlines through subsea pipeline integrity and hydraulic design principles.
- Integrate reservoir, well, subsea, and processing systems through integrated production system modeling.
- Perform preliminary deepwater project economics, capital expenditure (CAPEX), operating expenditure (OPEX), and economic sensitivity analysis.
- Apply offshore safety engineering, quantitative risk assessment, and environmental risk management to development planning.
- Incorporate digital twins, real-time monitoring, predictive analytics, and digital oilfield technologies into deepwater asset management.
- Develop lifecycle strategies for production optimization, asset integrity, decommissioning, and sustainable offshore operations.

Target Audience

- Deepwater and offshore petroleum engineers.
- Reservoir engineers and production engineers.
- Subsea engineers and offshore facilities engineers.
- Drilling, completion, and well intervention engineers.
- Field development planners and integrated asset team members.
- Offshore project managers and engineering consultants.
- Petroleum economists, commercial analysts, and investment evaluators.
- HSE professionals, technical specialists, and oil and gas operations managers.

Course Modules

## Module 1: Fundamentals of Deepwater Field Development

- Overview of deepwater and ultra-deepwater operations.
- Offshore geological settings and petroleum systems.
- Deepwater exploration, appraisal, and reservoir characterization.
- Field development lifecycle, project phases, and decision gates.
- Key technical, commercial, and operational challenges.
- Case Study: Evaluate a hypothetical deepwater discovery and identify the geological, logistical, and engineering factors that determine its development potential.

## Module 2: Reservoir Evaluation and Development Planning

- Reservoir characterization using geological and seismic data.
- Petrophysical analysis and uncertainty assessment.
- Reservoir simulation and production performance forecasting.
- Well placement, drainage strategies, and recovery mechanisms.
- Reserves estimation and development well planning.
- Case Study: Develop preliminary production scenarios for a deepwater reservoir with uncertain fluid contacts, reservoir properties, and recovery potential.

## Module 3: Deepwater Development Concepts and Facilities Selection

- Screening alternative offshore development concepts.
- FPSO systems, semisubmersible platforms, and floating production units.
- Subsea tiebacks and host facility integration.
- Topsides processing, utilities, storage, and export systems.

- Concept selection using technical, economic, and risk criteria.
- Case Study: Compare an FPSO-based development with a subsea tieback to an existing host facility, considering water depth, distance, production capacity, and project economics.

### Module 4: Subsea Production Systems and Architecture

- Subsea trees, manifolds, connectors, and distribution systems.
- Subsea control systems, sensors, and hydraulic or electrical interfaces.
- Umbilicals, power supply, and communications infrastructure.
- Subsea boosting, compression, and separation technologies.
- Subsea system reliability, maintainability, and intervention planning.
- Case Study: Design a conceptual subsea layout for a multiwell development connected to a centralized manifold and floating production facility.

### Module 5: Deepwater Drilling, Well Design, and Completions

- Deepwater well architecture and casing design considerations.
- Managed pressure drilling and narrow pressure-window challenges.
- Blowout preventer systems and well control principles.
- Intelligent completions and sand control strategies.
- Well integrity, intervention, and lifecycle risk management.
- Case Study: Review a conceptual deepwater well design and identify measures to address pressure uncertainty, well integrity risks, and completion reliability.

### Module 6: Flow Assurance, Pipelines, and Riser Engineering

- Multiphase flow behavior and hydraulic performance modeling.
- Hydrate prevention, wax management, and chemical inhibition.
- Pipeline sizing, pressure drop, and thermal management.
- Riser configurations, fatigue, and dynamic loading considerations.
- Pipeline integrity, corrosion management, and emergency response.
- Case Study: Assess a long subsea tieback with low operating temperatures and evaluate insulation, chemical injection, and operating strategies to reduce flow assurance risks.

### Module 7: Production Optimization, Digitalization, and Asset Integrity

- Integrated reservoir-to-export production system optimization.
- Artificial lift, subsea boosting, and production bottleneck analysis.
- Digital twins and real-time offshore asset monitoring.
- Predictive maintenance and data-driven failure prevention.
- Equipment reliability, availability, and performance management.
- Case Study: Use a hypothetical production dataset to identify constraints in wells, flowlines, and processing facilities and recommend a prioritized optimization plan.

### Module 8: Project Economics, Risk, Sustainability, and Lifecycle Management

- Deepwater CAPEX, OPEX, cash flow, and project valuation.
- Economic sensitivity analysis and investment decision-making.
- HAZID, HAZOP, quantitative risk assessment, and safety barriers.
- Environmental impact, methane management, and emissions reduction.
- Decommissioning planning, abandonment, and end-of-life cost evaluation.
- Case Study: Prepare a preliminary investment recommendation for a deepwater development using alternative oil price assumptions, capital costs, production forecasts, and environmental risk considerations.

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.

- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@datastatresearch.org or call +254724527104

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to DATASTAT CONSULTANCY LTD account, as indicated in the invoice so as to enable us prepare better for you

## Certification & Learning Methodology

- Hands-on practical delivery with real-world datasets, case studies, and lab exercises.
- Post-training mentorship, access to class resources, and customized follow-up support.
- Participants who successfully complete the course receive an accredited Datastat Certificate of Completion.

## How to Enroll & Reserve Your Seat

1. Online Registration: Visit https://datastatresearch.org/courses/deepwater-field-development-engineering-training-course to register online.
2. Email Booking: Send participant details to training@datastatresearch.org for official invoice & reservation.
3. Support & Assistance: Inquire via phone +254 724 527 104 | +254 734 969 612.