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

Advanced Oil and Gas Field Development Planning Training Course

Comprehensive Course Syllabus, Practical Modules & Upcoming Schedules

PROGRAM SPECIFICATIONS & HIGHLIGHTS

DURATION
10 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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Advanced Oil and Gas Field Development Planning Training Course

Oil and Gas • 10 Days Intensive • Accredited Certification

Course Overview

Advanced Oil and Gas Field Development Planning Training Course is designed to equip participants with advanced technical, economic, and strategic skills for planning, evaluating, and optimizing oil and gas field development projects.

Key Skills & Software Tools Covered

Field Development Planning • Reservoir Management • Production Forecasting • Project Economics

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)
19 Oct 2026 – 30 Oct 2026	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Kigali	Classroom / 10d	**$6,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Dubai	Classroom / 10d	**$10,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Cape Town	Classroom / 10d	**$9,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Addis Ababa	Classroom / 10d	**$6,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Singapore	Classroom / 10d	**$10,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Istanbul	Classroom / 10d	**$10,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Bangkok	Classroom / 10d	**$10,000 USD / KES 220,000**
19 Oct 2026 – 30 Oct 2026	Accra	Classroom / 10d	**$8,000 USD / KES 220,000**
2 Nov 2026 – 13 Nov 2026	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
2 Nov 2026 – 13 Nov 2026	Kigali	Classroom / 10d	**$6,000 USD / KES 220,000**
2 Nov 2026 – 13 Nov 2026	Dubai	Classroom / 10d	**$10,000 USD / KES 220,000**

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

Course Curriculum & Modules

Advanced Oil and Gas Field Development Planning Training Course

Introduction

Advanced Oil and Gas Field Development Planning Training Course is designed to equip participants with advanced technical, economic, and strategic skills for planning, evaluating, and optimizing oil and gas field development projects. As the global energy industry increasingly focuses on production optimization, digital oilfield technologies, integrated asset management, reservoir performance, capital efficiency, and sustainable energy development, effective field development planning has become essential for maximizing hydrocarbon recovery and improving project profitability. This course explores the complete field development lifecycle, from exploration appraisal and reservoir characterization to concept selection, production forecasting, facilities design, drilling strategies, and full-field implementation. Participants will gain practical knowledge of integrated reservoir modelling, dynamic simulation, uncertainty quantification, field development optimization, production system design, and petroleum project economics to support informed investment decisions and technically robust development strategies.

The programme emphasizes the integration of subsurface engineering, well engineering, surface facilities, commercial evaluation, and operational planning into a unified field development strategy. Participants will learn how to evaluate alternative development concepts, assess recovery mechanisms, optimize well placement, forecast production profiles, estimate capital and operating expenditures, and manage technical and commercial risks throughout the project lifecycle. Through real-world case studies, field development simulations, scenario analysis, economic modelling, and multidisciplinary workshops, delegates will explore solutions to challenges such as declining reservoir pressure, complex geological structures, uncertain hydrocarbon volumes, infrastructure constraints, and fluctuating energy market conditions. The course also examines emerging industry trends, including AI-driven field development, digital twins, integrated asset modelling, carbon-conscious project design, enhanced oil recovery (EOR), and data-driven decision-making. By the end of the programme, participants will be better prepared to develop technically sound, economically viable, operationally efficient, and environmentally responsible oil and gas field development plans.

Course Duration

10 days

Course Objectives

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

- Develop integrated field development plans aligned with reservoir potential, production targets, and commercial objectives.
- Apply advanced reservoir characterization and geological modelling techniques to evaluate hydrocarbon resources.
- Evaluate field development concepts using technical feasibility, economic performance, and operational considerations.
- Optimize well placement, well spacing, and drilling strategies to maximize recovery and productivity.
- Apply reservoir simulation and production forecasting techniques to predict long-term field performance.
- Integrate subsurface, wells, production facilities, and export infrastructure into integrated asset development models.
- Conduct comprehensive petroleum project economics, capital budgeting, and investment analysis.
- Evaluate uncertainty using probabilistic modelling, sensitivity analysis, and scenario-based forecasting.
- Select appropriate primary recovery, waterflooding, gas injection, and enhanced oil recovery (EOR) strategies.
- Apply digital oilfield solutions, predictive analytics, and AI-assisted decision-making to development planning.
- Optimize surface facilities, processing capacity, and production systems to meet forecast field requirements.
- Develop risk management, environmental management, and emissions-reduction strategies for field development projects.
- Prepare and communicate an integrated field development plan (FDP) supported by technical evidence, economic justification, and implementation milestones.

Target Audience

- Petroleum and reservoir engineers.
- Production and well engineering professionals.
- Exploration geologists and geophysicists.
- Field development and asset planning engineers.
- Drilling and completions engineers.
- Oil and gas project managers and development team leaders.
- Petroleum economists, investment analysts, and commercial managers.
- Technical consultants, energy planners, and professionals responsible for upstream project evaluation.

Course Modules

Module 1: Fundamentals of Advanced Oil and Gas Field Development Planning

- Principles and objectives of integrated field development planning.
- Field development lifecycle
- Roles of subsurface, wells, facilities, economics, and operations teams.
- Key performance indicators for recovery, production, cost, and project value.
- Case Study: Evaluating development priorities for a newly discovered offshore oil field.

Module 2: Reservoir Characterization and Geological Modelling

- Geological interpretation and structural framework development.
- Petrophysical analysis and reservoir quality assessment.
- Static reservoir modelling and three-dimensional geological models.
- Fluid properties, reservoir connectivity, and uncertainty in hydrocarbon volumes.
- Case Study: Integrating seismic, well-log, and core data to characterize a heterogeneous sandstone reservoir.

Module 3: Hydrocarbon Resource Assessment and Reserves Estimation

- Hydrocarbon volumetric calculations and resource classification.
- Deterministic and probabilistic reserves estimation methods.
- Pressure-volume-temperature (PVT) analysis and fluid characterization.
- Material balance techniques and reservoir performance evaluation.
- Case Study: Comparing low, best, and high resource estimates to support an offshore development decision.

Module 4: Field Development Concept Selection and Screening

- Identification of alternative development concepts.

- Onshore versus offshore development strategies.
- Fixed platforms, subsea tiebacks, floating production systems, and wellhead facilities.
- Technical, operational, environmental, and commercial screening criteria.
- Case Study: Selecting between a standalone offshore facility and a subsea tieback to an existing production hub.

Module 5: Advanced Reservoir Engineering and Production Forecasting

- Reservoir drive mechanisms and pressure depletion behaviour.
- Decline curve analysis and production performance forecasting.
- Reservoir simulation for development scenario evaluation.
- Recovery factor estimation and production plateau management.
- Case Study: Forecasting production from a mature oil reservoir under natural depletion and pressure-support scenarios.

Module 6: Well Planning, Placement, and Drilling Strategy Optimization

- Well architecture, trajectory planning, and target selection.
- Vertical, directional, horizontal, and multilateral well development.
- Well spacing, drainage areas, and reservoir contact optimization.
- Drilling cost estimation, rig selection, and execution scheduling.
- Case Study: Comparing horizontal and vertical well development strategies in a thin-bedded reservoir.

Module 7: Production Facilities and Surface Infrastructure Design

- Production processing requirements and facility sizing.
- Separation, dehydration, compression, and produced-water treatment.
- Gathering systems, pipelines, storage, and export infrastructure.
- Capacity planning, debottlenecking, and modular facility design.
- Case Study: Optimizing processing capacity for a field with rising associated gas production.

Module 8: Integrated Asset Modelling and Production System Optimization

- Integration of reservoir, wellbore, flowline, and facility models.
- Nodal analysis and inflow-performance evaluation.
- Pressure drop, multiphase flow, and production constraints.
- Artificial lift selection and system-wide production optimization.
- Case Study: Identifying the production bottleneck in a field experiencing declining well deliverability and limited facility capacity.

Module 9: Enhanced Oil Recovery and Reservoir Management Strategies

- Waterflood design and injection-pattern optimization.
- Gas injection, miscible displacement, and pressure maintenance.
- Chemical, thermal, and other enhanced oil recovery methods.
- Reservoir surveillance, conformance control, and recovery improvement.
- Case Study: Screening waterflooding and polymer injection alternatives for a mature oil field.

Module 10: Field Development Economics and Investment Appraisal

- Capital expenditure (CAPEX) and operating expenditure (OPEX) estimation.
- Cash-flow modelling, net present value (NPV), and internal rate of return (IRR).
- Production revenue forecasting, fiscal terms, and royalty considerations.
- Breakeven analysis, payback periods, and investment ranking.
- Case Study: Comparing the economic attractiveness of two development concepts under different oil-price assumptions.

Module 11: Uncertainty Analysis and Risk-Based Development Planning

- Identification of geological, reservoir, operational, and commercial uncertainties.
- Sensitivity analysis and scenario planning.
- Monte Carlo simulation and probabilistic production forecasting.
- Risk registers, mitigation measures, and decision-tree analysis.
- Case Study: Quantifying the impact of uncertain reservoir connectivity and drilling costs on project economics.

Module 12: Digital Oilfield Technologies, AI, and Predictive Analytics

- Digital oilfield architecture and real-time operational data integration.
- Artificial intelligence and machine learning applications in development planning.
- Predictive maintenance and production-performance analytics.
- Digital twins, automated workflows, and model-assisted decision-making.
- Case Study: Using historical production data and predictive analytics to prioritize well interventions and improve field performance.

Module 13: Project Execution, Scheduling, and Development Management

- Development project work breakdown structures and execution planning.
- Integrated master schedules and critical-path analysis.
- Procurement, contracting, logistics, and supply-chain coordination.
- Cost control, schedule assurance, and progress measurement.
- Case Study: Recovering a delayed field development project through revised procurement priorities and critical-path management.

Module 14: Environmental Management, HSE, and Sustainable Field Development

- Environmental impact assessment and regulatory compliance.
- Greenhouse gas emissions management and methane reduction.
- Flaring minimization, energy efficiency, and produced-water management.
- Health, safety, environmental, and process safety risk assessment.
- Case Study: Redesigning a field development concept to reduce routine flaring, emissions, and environmental exposure.

Module 15: Integrated Field Development Plan Preparation and Optimization

- Integration of subsurface, well design, facilities, and economic models.
- Development phasing, production ramp-up, and infrastructure sequencing.
- Preparation of field development plans and investment submissions.
- Performance monitoring, value assurance, and development plan updates.
- Case Study: Preparing an integrated field development plan for a hypothetical offshore oil and gas discovery, including production forecasts, facility concepts, capital requirements, risk assessment, and investment justification.

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/advanced-oil-and-gas-field-development-planning-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.