

Digital Oilfield Integrated Production Management Training Course

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Overview

Digital Oilfield Integrated Production Management Training Course is a one-week advanced course for production, petroleum, reservoir, operations, control, data, and reliability functions who leave with a Digital Oilfield Production Workflow and Assurance File. Participants connect field measurements, engineering models, visualization, surveillance, allocation, optimization, and condition monitoring. The course turns fragmented data and models into governed operating decisions from wells through facilities. Agile Leaders Training Center presents digital oilfield integrated production management.

Who Should Attend

- Production and petroleum functions responsible for well surveillance, field performance, and operating recommendations
- Reservoir and subsurface functions responsible for model assumptions, production forecasts, and depletion evidence
- Field-operations functions responsible for alarms, constraints, interventions, and coordinated execution
- Control and data functions responsible for historians, tags, interfaces, dashboards, and data quality
- Reliability and maintenance functions responsible for equipment condition, failure indicators, and work priorities
- Technical-authority functions responsible for model governance, workflow assurance, and operating limits

The course assumes participants already work with upstream production data, engineering models, field operations, or asset performance, and it leaves out introductory petroleum engineering, software coding, control-system configuration, and vendor-specific application operation.

Departments and Industries

The course supports departments and industries that integrate live operating data with engineering and asset decisions.

- Upstream production, wells, reservoirs, and field operations
- Oil and gas gathering, processing, and export facilities
- Industrial control, operations centers, and data engineering
- Maintenance, reliability, inspection, and asset performance
- Engineering services, production technology, and digital operations
- Power, utilities, and process industries using connected assets

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Learning Objectives

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

- Build a governed digital-oilfield data and model architecture
- Analyze production surveillance and exception evidence
- Use integrated visualization and volume-allocation workflows
- Evaluate model calibration and operating constraints
- Prioritize production optimization and condition responses
- Apply workflow assurance to field decisions and records

Course Agenda

Day 1: Establish Digital Field Architecture

- Digital Oilfield Operating Model and Value-Chain Map
- Sensor, Historian, Engineering Model, and Decision-Layer Architecture
- Tag, Timestamp, Unit, and Context Data-Quality Checklist
- System Interface, Ownership, and Access Responsibility Matrix
- Workflow Governance and Operating-Decision Audit Trail

Day 2: Integrate Models and Surveillance

- Reservoir, Well, Network, and Facility Model Linkage Map
- Model Calibration, Version, and Validity-Control Register
- Well and Facility Operating Envelope Method
- Real-Time Production Surveillance and Exception Rule Set
- Alarm, Event, Deviation, and Root-Cause Triage Board

Day 3: Manage Visualization and Volumes

- Integrated Field Visualization and Role-Based Dashboard Design
- Daily Production, Test, Downtime, and Constraint Reconciliation Sheet
- Meter Hierarchy and Hydrocarbon Volume-Allocation Logic
- Data Confidence, Imbalance, and Allocation Exception Register
- Shift Handover and Cross-Discipline Decision Workspace

Day 4: Optimize Production and Asset Condition

- Constraint-Based Production Opportunity Screening Matrix
- Scenario Comparison and Model-Assisted Optimization Method
- Recommendation, Approval, Set-Point, and Feedback Workflow
- Equipment Condition Indicator and Failure-Pattern Dashboard
- Maintenance Priority and Production-Risk Integration Grid

Day 5: Practice Digital Field Decisions

- Suggested Exercise: Diagnose a Production Surveillance Exception
- Suggested Exercise: Reconcile Volumes and Allocation Imbalances
- Suggested Exercise: Challenge Model Calibration and Constraints
- Suggested Exercise: Rank Optimization and Condition Responses
- Capstone Exercise: Complete the Digital Oilfield Production Workflow and Assurance File

Practical Exercises

The course uses suggested activities to connect live data, engineering evidence, operating constraints, and action governance.

- Suggested activity: trace measurements through historians, models, dashboards, alerts, recommendations, approvals, and operating records.
- Suggested activity: reconcile production tests, downtime, meter hierarchies, allocation logic, and unexplained imbalances.
- Suggested activity: compare model predictions with field evidence and define calibration, validity, and escalation actions.
- Suggested activity: assemble a workflow file covering surveillance, optimization, condition monitoring, decisions, ownership, and assurance.

FAQs

Who suits digital oilfield integrated production management training?

Digital oilfield integrated production management training suits production, reservoir, field-operations, control, data, reliability, and technical-assurance functions. It assumes experience with upstream data, models, or operations and does not teach introductory petroleum engineering or vendor-specific software operation.

How does digital oilfield production management differ from production data analytics?

Digital oilfield production management joins data, engineering models, surveillance, visualization, allocation, operating constraints, optimization, condition monitoring, and controlled action. Production data analytics concentrates on preparing and analyzing datasets and may stop before an operating decision is governed and executed.

How are engineering models used in digital oilfield operations?

Engineering models provide expected behavior, constraints, forecasts, diagnostic comparisons, and scenario results. Digital workflows compare model output with current field evidence, control model validity, and record the assumptions behind recommendations.

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What does integrated volume management require in a digital oilfield?

Integrated volume management requires a defined meter hierarchy, consistent units and timestamps, production-test evidence, downtime treatment, allocation rules, imbalance thresholds, data confidence, ownership, reconciliation, and an auditable closeout process.

How should digital oilfield optimization recommendations be controlled?

Optimization recommendations should state the evidence, model version, assumptions, constraints, expected effect, risk, approving authority, execution limit, feedback signal, and rollback condition. The workflow then records the action and compares actual performance with the recommendation.

Conclusion

Participants take back a Digital Oilfield Production Workflow and Assurance File linking measurements, models, visualization, surveillance, allocation, optimization, condition monitoring, and controlled action. The file clarifies ownership and exposes weak data or model assumptions. It supports traceable production and asset decisions across wells and facilities.

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