

# Petroleum Production Forecasting & Optimization with AI Analytics

*London (UK)*

*6 - 10 October 2025*

UK Traininig

# PARTNER



# Petroleum Production Forecasting & Optimization with AI Analytics

Code: OG28 From: 6 - 10 October 2025 City: London (UK) Fees: 5100 Pound

## Introduction

Accurate petroleum production forecasting is a critical factor in sustaining output levels, optimizing operations, and maximizing resource utilization. In today's rapidly evolving energy sector, the integration of Artificial Intelligence AI and advanced analytics has become a strategic necessity to improve forecasting accuracy, streamline operations, and enhance profitability.

This course equips participants with the skills and knowledge to implement AI-driven forecasting models and optimization strategies, enabling data-backed decision-making for higher productivity and efficiency in petroleum production operations.

## Course Objectives

- Understand the fundamentals of petroleum production forecasting.
- Apply AI analytics to enhance prediction accuracy.
- Build predictive models using historical and operational data.
- Implement optimization algorithms to maximize well and field output.
- Integrate real-time sensor data into forecasting and optimization processes.
- Analyze key performance indicators to assess operational efficiency.
- Identify and resolve production challenges using advanced analytics.
- Develop sustainable production strategies supported by AI.

## Course Outlines

### Day 1: Fundamentals of Production Forecasting and AI Applications

- Overview of traditional forecasting methods in petroleum production.
- Importance and role of forecasting in operations.
- AI's impact on predictive model development.
- Data sources are essential for production forecasting.
- Limitations of conventional forecasting techniques.
- Comparative analysis: traditional vs AI-driven models.

### Day 2: Data Acquisition and Preparation for Predictive Models

- Types of data used geological, operational, production.
- Data cleaning and handling missing values.
- Feature engineering to extract influential variables.
- Merging data from multiple sources.
- Leveraging IoT technologies for real-time data collection.
- Practical exercise: preparing a forecasting dataset.

### Day 3: Building AI-Driven Predictive Models



- Selecting suitable algorithms for production forecasting.
- Building regression and time series forecasting models.
- Model accuracy evaluation and improvement techniques.
- Scenario-based production forecasting.
- Detecting deviations in production performance.
- Practical exercise: training an AI-based forecasting model.

#### Day 4: Production Optimization Strategies with AI Analytics

- Identifying optimization opportunities in production processes.
- Applying optimization algorithms to adjust production plans.
- Adaptive control of operational rates.
- Using predictive analytics for operational decision-making.
- Minimizing operational risks with predictive maintenance.
- Practical exercise: creating a production optimization plan.

#### Day 5: Performance Evaluation and Continuous Improvement

- Key performance indicators KPIs for production optimization.
- Economic impact assessment of optimization strategies.
- Updating models with new operational data.
- Embedding continuous improvement into production strategies.
- Case studies of successful AI Analytics applications.
- Practical exercise: presenting a complete production improvement plan.

#### Why Attend this Course: Wins & Losses!

- Gain advanced skills in AI-based forecasting and optimization.
- Improve production efficiency and reduce operational costs.
- Enhance accuracy in operational decision-making.
- Prevent unexpected failures with predictive maintenance.
- Maximize resource utilization and increase profitability.
- Learn from real-world examples and practical exercises.
- Develop expertise in integrating AI into production strategies.
- Stay up-to-date with the latest technologies in petroleum operations.

#### Conclusion

AI-powered petroleum production forecasting and optimization represent a transformative shift in operational management. By leveraging data-driven insights, this approach allows for precise, real-time decision-making and long-term productivity gains.

This course equips participants with the tools to design robust predictive models, implement effective optimization strategies, and achieve measurable operational and financial outcomes.





# Blackbird Training Cities

## Europe



Malaga (Spain)



Sarajevo (Bosnia and Herzegovina)



Oporto (Portugal)



Glasgow (Scotland)



Edinburgh (UK)



Oslo (Norway)



Annecy (France)



Bordeaux (France)



Copenhagen (Denmark)



Birmingham (UK)



Lyon (France)



Moscow (Russia)



Stockholm (Sweden)



Podgorica (Montenegro)



Batumi (Georgia)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)  
(Switzerland)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva



Prague (Czech)



Vienna (Austria)



Rome (Italy)



Brussels



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich



Manchester (UK)



Milan (Italy)



## Blackbird Training Cities

### USA & Canada



Los Angeles (USA)



Orlando, Florida (USA)



Online



Phoenix, Arizona (USA)



Houston, Texas (USA)



Boston, MA (USA)



Washington (USA)



Miami, Florida (USA)



New York City (USA)



Seattle, Washington (USA)



Washington DC (USA)



In House



Jersey, New Jersey (USA)



Toronto (Canada)

### ASIA



Baku (Azerbaijan)  
(Thailand)



Maldives (Maldives)



Doha (Qatar)



Manila (Philippines)



Bali (Indonesia)



Bangkok



Beijing (China)



Singapore (Singapore)



Sydney



Tokyo (Japan)



Jeddah (KSA)



Riyadh (KSA)



Melbourne (Australia)  
Korea



Phuket (Thailand)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City (Kuwait)



Seoul (South)



Pulau Ujong (Singapore)



Irbid (Jordan)



Jakarta (Indonesia)



Amman (Jordan)



Beirut





## Blackbird Training Cities

### AFRICA



Kigali (Rwanda)



Cape Town ( South Africa)



Accra (Ghana)



Lagos (Nigeria)



Marrakesh (Morocco)



Nairobi (Kenya)



Zanzibar (Tanzania)



Tangier (Morocco)



Cairo (Egypt)



Sharm El-Sheikh (Egypt)



Casablanca (Morocco)



Tunis (Tunisia)



## Blackbird Training Clients



MANNAI Trading  
Company WLL,  
Qatar



Alumina Corporation  
Guinea



Booking.com  
Netherlands



Oxfam GB International  
Organization,  
Yemen



Capital Markets  
Authority,  
Kuwait



Waltersmith Petroman Oil Limited  
Nigeria



Qatar National Bank  
(QNB),  
Qatar



Qatar Foundation,  
Qatar



AFRICAN UNION ADVISORY  
BOARD ON CORRUPTION,  
Tanzania



KFAS  
Kuwait



Reserve Bank of  
Malawi,  
Malawi



Central Bank of Nigeria  
Nigeria



Ministry of Interior  
Kingdom of Saudi Arabia  
KSA



Mabruk Oil Company  
Libya



Saudi Electricity  
Company,  
KSA



BADAN PENGELOLA  
KEUANGAN Haji,  
Indonesia



NATO  
Italy



ENI CORPORATE  
UNIVERSITY,  
Italy



Gulf Bank  
Kuwait



General Organization for  
Social Insurance  
KSA



Defence Space Administration  
Nigeria



National Industries  
Group (Holding),  
Kuwait



Hamad Medical  
Corporation,  
Qatar



USAID  
Pakistan



STC Solutions,  
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS  
UN.



Authority for

UK Training  
**PARTNER**



## Blackbird Training Categories

### Management & Admin

Entertainment & Leisure  
Professional Skills  
Finance, Accounting, Budgeting  
Media & Public Relations  
Project Management  
Human Resources  
Audit & Quality Assurance  
Marketing, Sales, Customer Service  
Secretary & Admin  
Supply Chain & Logistics  
Management & Leadership  
Agile and Elevation

### Technical Courses

Artificial Intelligence (AI)  
Hospital Management  
Public Sector  
Special Workshops  
Oil & Gas Engineering  
Telecom Engineering  
IT & IT Engineering  
Health & Safety  
Law and Contract Management  
Customs & Safety  
Aviation  
C-Suite Training



 International House 185 Tower Bridge  
Road London SE1 2UF United Kingdom

 +44 7401 1773 35  
+44 7480 775526

 Sales@blackbird-training.com

 www.blackbird-training.com

