

AI and Machine Learning in Oilfield Operations

COURSE OVERVIEW

This course provides a comprehensive introduction to the application of Artificial Intelligence (AI) and Machine Learning (ML) in the oil and gas sector, with a focus on upstream and midstream operations. Participants will explore how cutting-edge AI and ML techniques can optimize drilling, production forecasting, reservoir management, predictive maintenance, and operational efficiency. Through case studies and practical demonstrations, the course bridges the gap between data science and oilfield engineering, equipping learners with the knowledge to leverage intelligent technologies for smarter, safer, and more cost-effective operations.

WHO SHOULD ATTEND?

The course is designed for petroleum engineers, drilling and production engineers, geoscientists, data scientists, operations managers, and technical professionals working in the oil and gas industry. It is also suitable for decision-makers, consultants, and early-career professionals who want to enhance their understanding of AI and ML applications in oilfield operations. No prior expertise in AI is required, although a basic understanding of oil and gas processes and data analysis will be helpful.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand fundamental concepts of AI and ML and their relevance to oilfield operations.
- Identify key areas where AI and ML can add value in drilling, production, and reservoir management.
- Apply predictive analytics and data-driven models for operational decision-making.
- Evaluate real-world case studies of AI adoption in oilfield operations.
- Gain practical exposure to tools and workflows used in AI-driven oilfield optimization.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Industry-specific AI and ML concepts tailored to oilfield applications.
- Practical demonstrations using oil and gas datasets.
- Case studies showcasing successful AI implementations in drilling, production, and maintenance.
- Insights into digital oilfield transformation and emerging technologies.
- Hands-on exposure to predictive modeling, anomaly detection, and optimization workflows.
- Guidance from industry and academic experts bridging petroleum engineering and data science.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded