

Geomechanics & Advanced Subsurface Modeling for Field Development

COURSE OVERVIEW

The course provides a comprehensive understanding of how geomechanical principles and advanced modeling techniques can be applied to optimize field development planning and execution. The course integrates theory with practical applications, covering stress analysis, rock mechanics, reservoir wellbore interactions and subsurface modeling workflows. Participants will explore and comprehend state of the art tools and methodologies to predict and mitigate drilling and production risks, improve reservoir recovery strategies and enhance overall decision making in complex subsurface environments.

WHO SHOULD ATTEND?

This course is intended for petroleum engineers, geoscientists, reservoir engineers, drilling and completion engineers and field development planners who are involved in the design, evaluation and management of oil and gas projects. It is also valuable for professionals seeking to strengthen their expertise in geomechanics, subsurface integration and advanced modeling for effective field development strategies.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Apply geomechanical principles to optimize drilling, completion, and production operations.
- Use advanced subsurface modelling to evaluate reservoir performance and field development options.
- Identify and mitigate risks related to wellbore instability, sand production, and subsidence.
- Integrate geomechanical and reservoir models for improved recovery and long-term performance.
- Strengthen decision-making with predictive modelling and scenario-based analysis.
- Develop data-driven strategies to enhance reservoir integrity and maximize asset value.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Key geomechanical concepts and their application in subsurface modelling.
- Methods to predict pore pressure and stress distribution in the reservoir.
- Techniques for building and calibrating mechanical earth models.
- Assessing wellbore stability and fracture risks during drilling.
- Using advanced software for 2D and 3D geomechanical simulations.
- How to apply geomechanics for safer and more efficient field development planning.

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