

RESERVOIR SIMULATION

Hydrodynamic modeling

About the course

Simulation 3D model of hydrocarbon reservoir is a powerful tool for optimizing future recovery of a field and for defining and minimizing risks and uncertainties. Reservoir model predicts future behavior, such as pressure decline or water breakthrough, providing important information for timely actions – considerations and planning of well workovers, or maybe investing in applying secondary or tertiary recovery methods. Having a high-quality reservoir model, management of hydrocarbon reservoir is more confident and accurate.

Reservoir simulation course covers key topics of oil and gas reservoir hydrodynamic modelling, including challenges, pitfalls and approach for receiving the most quality results. It will guide you through cycle of data gathering and analysis, important key points to consider, model building, history match and forecast production sensitivity and optimization with a goal to maximize recovery with optimum investment and minimal risks.

Designed for

Reservoir engineers, geologists, geophysicists or anyone who regularly uses, reviews or supervises the construction of reservoir models by a comprehensive overview of the key topics and practical aspects.

What will You learn

How to analyze and systematize data required for hydrodynamic modeling, build a 3D reservoir model and be familiar with different techniques of history match. Further, uncertainty and sensitivity analysis and optimization of production forecast will be shown through practical examples.

Course content

- General overview
- Basic concepts and equations

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- Basic concepts in Reservoir Engineering
- Data analysis and implementation
- Simulation sections
- Model building, local grid refinement and coarsening
- Model initialization
- History matching
- Prediction
- Sensitivity and uncertainty analysis