Practical Reservoir Simulation

ABOUT THE COURSE

Dynamic reservoir models are important when investigating reservoir behavior, optimizing reservoir performance, designing complex wells, estimating uncertainties and providing the basis for risk management. The course is designed to give an introduction to the practical aspects of reservoir simulation with the basic concepts of numerical simulation without complicated mathematics. You will learn about data gathering for simulation models, how to construct the dynamic flow model and how to perform a simulation study and will be introduced to the general approaches to modelling including history matching of field data and forecasting future performance.

DESIGNED FOR

This training course is 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.

YOU WILL LEARN

- What is reservoir simulation
- Why reservoir simulation
- Main objective
- What can a reservoir model answer
- Other analysis methods
- Examples of beneficial applications
- The significance of data quality checks and requirements in simulation models
- The entire simulation life cycle and workflows

COURSE OUTLINE

- General overview
- Modeling concepts
- Steps in preparing a model study
- Model design check list
- Preliminary design
- Data collection and input data preparation
- Conducting the model study
- Description of simulation model
- Simulation features
- Data requirements
- Simulation input file sections
- Building the model
- Grid construction and features
- Geological model development/upgrading & upscaling
- Defining initial conditions/model initialization
- History matching
- Prediction
- Review of simulation model

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