



Geomechanics for Heavy Oil - HOGM

COURSE

About the Course

This course introduces an integrated workflow for reservoir containment evaluation and caprock integrity assessment in thermal operations such as SAGD and CSS in heavy oil reservoirs. The essential fundamentals of petroleum-related rock mechanics will be presented, and the processes of data collection, geomechanical characterization, and building Mechanical Earth Models (MEMs) will be discussed in details with an emphasis on data uncertainty.

The course provides a comprehensive picture of the geomechanical behavior of heavy oil fields in response to thermal operations and shows how different modeling approaches, from simpler closed-form solutions to more cumbersome numerical models, may be implemented to predict this behavior and its associated geomechanical risks. It presents the application of modeling in mitigating the adverse effects of these risks and determining safe-operating criteria such as maximum operating pressure. Different aspects of field monitoring and real-time updating, as essential components of reservoir containment evaluation, are discussed. Several case histories and in-class exercises help participants grasp a practical perception of the course materials.

Target Audience

Geoscientists and reservoir engineers involved in heavy oil plays.

You Will Learn

How to implement principles of rock mechanics and petroleum geomechanics in evaluation of reservoir containment in thermal operations

Course Content

- Reservoir containment evaluation
- Caprock integrity assessment
- SAGD and CSS in heavy oil reservoirs
- Fundamentals of petroleum-related rock mechanics
- Processes of data collection
- Geomechanical characterization
- Mechanical Earth Models (MEMs)

Product Details

Categories: Upstream

Disciplines: Petrophysics

Levels: Foundation

Product Type: Course

Formats Available: In-Classroom

Instructors: Hamidreza (Mehrdad) Soltanzadeh