

Reservoir Engineering for other Disciplines

Outline and Contents:

The following topics will be addressed

- Introduction: general definitions, basic concepts
- Reservoir geology: structural geology, faults and compartmentalization, types of reservoirs and properties, types of rock and properties, pressure and temperature, oil and gas in place, principles of geomechanics, principles of petrophysics and logging
- Drilling and completion basics: drilling process, completion, formation damage, stimulation
- Flow in reservoirs: Darcy's law and applications, two and three phase flow: relative permeability and capillary pressure, small and large scale flow, complications during production, immiscible displacement
- Production of oil reservoirs, inflow, outflow (incl. artificial lift principles), material balance (incl. aquifers), production calculations: history matching and forecasting, water flooding, water breakthrough, reservoir simulations (principles)
- Production of gas reservoirs: inflow, outflow, material balance (incl. aquifers), production calculations: history matching and forecasting, water production (incl. liquid loading and deliquification), water injection wells
- Field development: concepts, types of wells, integrated project management, economics,
- Well testing: oil wells, gas wells
- Enhanced Oil Recovery (EOR): general theory and terminology, types of EOR systems, candidate selection, EOR Facilities
- Production operations: reservoir and well performance monitoring, data management, general roles & responsibilities, well interventions
- Reserves planning: PRMS: Petroleum Resource Management System, portfolio management arrive at average reservoir properties, uncertainty of reserve calculations

Who Should Attend:

This course is designed for industry entrants seeking relevant knowledge within their discipline, as well as at seasoned E&P professionals seeking to broaden their technological skills. In addition, for students this is an ideal opportunity to look into state-of-the-art industry technology with real-life examples, and to sharpen their competitive edge.

Biography:

Wouter Botermans (1970) holds a MSc. Petroleum Engineering from Delft University of Technology and worked since 1996 on reservoir engineering and production technology projects. He started with Halliburton where he carried out a wide variety of tasks ranging from research, reservoir and well simulations to field engineering including on-site support. In 2001 he joined NAM (Shell) as a production technologist, responsible for the

performance monitoring and optimization of gas fields, onshore The Netherlands. In 2004 he became operational reservoir engineer with BP, later TAQA and worked on the Bergermeer gas storage and Rijn oil field production optimization. In 2013 and 2014 Wouter worked with Tulip Oil where he was involved in field development and economics. Since September 2014 he works as freelance petroleum engineer on production and recovery optimization, training and subsurface consultancy.