



«MULTIDISCIPLINARY APPROACH TO RESERVOIR SIMULATION», 5 days

COURSE OBJECTIVE:

improvement of professional competencies of petroleum engineers in sphere of geological and reservoir modeling, interdisciplinary interaction for development of complex field model.

ACQUIRED ABILITIES:

- collection, analysis and processing of data required for task achievement in well modeling;
- interdisciplinary interaction;
- decision-making in conditions of uncertainty and multicreriality.

COURSE CONTENT:

Module Name	Content
Model components	Information kinds. Fundamentals of associated disciplines: rock physics, seismic, sedimentology. Basis of lithofacies analysis. Conceptual model.
Geological disciplines and its interaction	Results of disciplines interaction. Geologist’s tool for result evaluation. Approval of data.
Model basis	Overall and detailed correlation. The importance of correlation. Main correlation principles for channel, deltaic and clinoforn sediments. Principles and relevancy of geological body extraction.
Improving of geological modeling	Direct and inverse tasks of geological modeling. Real-world scenario for inverse task.
Issues of moving from geological to reservoir grid	Differentiation of geological and reservoir models. Detailed and extend grid. Coarsening. Expertise. Potential coarsening problems.
Input data analysis for reservoir modeling	Data source for reservoir modeling. Input data evaluation and complexation methods.
Features of initial and boundary conditions	Data sources for initial conditions setting in reservoir modeling. Evaluation and complexation methods for formation initial state data.
Stages of reservoir modeling	Adaptation of the model with actual production history. Main adaptation technics. Adaptation criteria. Self-examination. Types of prediction calculations. Prediction calculations quality control.
Specialists’ interaction while modeling	Case studies of specialist’s interaction while modeling.