Reservoir Engineering Course 2017

Syllabus

- **Introduction to reservoir engineering**
- **Rock Characteristics, Significance in Petroleum Reservoirs**
- **Fundamentals of Reservoir Fluid Properties, Phase Behavior**
- **Fundamentals of Fluid Flow in Petroleum Reservoirs**
- **Transient Well Pressure Analysis**
- **Fundamentals of Data Acquisition, Analysis, Management.**
- **Integration of Geosciences and Engineering Models.**
- **Evaluation of Primary Reservoir Performance**
- **Volumetric Methods in Petroleum Reservoir Analysis**
- **Empirical Methods for Reservoir Performance Analysis**
- **Decline Curve Analysis**
- **Material balance methods**
- **Reservoir simulation fundamentals**
- **Reservoir simulation model applications**
- **Fundamentals of oil and gas reserves**
- **Fundamentals of petroleum economics, integrated modeling, and risk and uncertainty analysis**
- **Improved recovery processes: fundamentals of water flooding & enhanced oil recovery.**
- **Operational issues in reservoir development and management**

Reference text books:

Applied Petroleum Reservoir Engineering, Second Edition, Craft et al., 1991.

Basics of Reservoir Engineering – Oil and Gas Field Development Techniques, Cosse', 1993.

Fundamentals of Reservoir Engineering, Dake, 1978.

Practical Enhanced Reservoir Engineering Assisted with Simulation Software, Satter et al., 2008.

Reservoir Engineering Handbook, Ahmed, 2006.

Working Guide to Reservoir Engineering, Third Addition, Lyons, 2010.

Class assignments:

7 weekly reading assignment.

3-4 home work exercises.

Grade breakdown:

50% home work.

50% final exam.