Faculty of Engineering & Technology

Properties of Petroleum Fluids

Information :

Course Code :	PE 301	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Associate Professor	Omar Saad Ahmed Mahmoud	

Area Of Study :

the course introduce the students to the various properties of petroleum reservoir fluids, lab and field identification of reservoir fluids, and prediction of phase behavior in both single phase and multi-component systems.

Description :

Physical properties of petroleum fluids; chemical components of petroleum fluids. Elementary phase behavior; calculations of the physical properties of gases, liquids, and gas-liquid mixtures in equilibrium.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	To get acquainted with the various petroleum fluid types .
2 -	To be familiar with the lab tests used to identify different fluids.
3 -	To understand the properties of each type of fluid as well as its phase diagram.
b.Intellectual Skills: :	
1 -	To analyze the different phase behaviors of the petroleum fluids
2 -	To identify the different types of reservoir fluids
3 -	To solve the problem of unknown reservoir fluid and determine is physical properties and composition
c.Professional and Practical Skills: :	
1 -	To be able to perform the required lab tests so as to know reservoir fluid type .
2 -	To be able to determine reservoir fluid characteristics.
d.General and Transferable Skills: :	
1 -	Ability to work in team
2 -	Ability to report clearly on laboratory PVT work
3 -	Report writing skills and presentation skills

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	2	Introduction	
Physical properties of petroleum fluids	4	Properties of petroleum fluids	Discussion of Assignments and weekly work sheets
Chemical components of petroleum fluids	2	As above	As above
Hydrocarbon phase behavior	6	As above	As above
Laboratory PVT Data	6	As above	As above
Physical properties of gas	6	As above	As above
Gas-Liquid mixtures in equilibrium	4	As above	As above

Teaching And Learning Methodologies :

- Weekly oral lectures using white board
- PowerPoint presentations and data show with handouts
- Short duration video tapes

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	15	
Quizzes	10.00	5	
Reports and special assignments	10.00	5	
Weekly tutorials and attendance	10.00	1	

Course Notes :

Available on pdf files