

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
Professor	Ismail Shaaban Ismail Mahgoub	10
Assistant Lecturer	MOAMEN AHMED GASSER HASSAN KAMEL IBRAHIM KAMEL	
Teaching Assistant	Reham Shawket Mostafa Taha Khalaaf	2

Area Of Study :

- Δ Develop knowledge about the various properties of petroleum reservoir fluids
 - Δ Prepare to identification of reservoir fluid types
 - Δ Train to perform prediction of phase behaviour in both single phase and multi-component systems.

Description :

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

Course outcomes :

a.Knowledge and Understanding: :

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| 1 - | Illustrate the various petroleum fluid types |
| 2 - | Compare between the lab tests used to identify different fluid type and behaviour. |
| 3 - | Explain the properties of each type of fluid as well as its phase diagram. |

b. Intellectual Skills: :

- 1 - Solve the reservoir fluid properties and composition

c. Professional and Practical Skills:

- 1 - Practice basic experiments to perform the required lab tests to know reservoir fluid
 - 2 - Evaluate the different types of reservoir fluids

d. General and Transferable Skills:

- 1 - Collaborate effectively within multidisciplinary team.
 - 2 - Work in stressful environment and within constraints.
 - 3 - Communicate effectively

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	5	3	2
Physical properties of petroleum fluids	10	6	4
Chemical components of petroleum fluids	5	3	2
Hydrocarbon phase behavior	15	9	6
Laboratory PVT Data	13	9	4
Physical properties of gas	15	9	6
Gas-Liquid mixtures in equilibrium	12	6	6

Teaching And Learning Methodologies :

- Interactive Lecturing
 - Discussion
 - Problem-based Learning
 - Report
 - Experiential Learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	5.00	5	
Final Exam	40.00	15	
Lab Exper.	10.00		
Mid- Exam I	25.00	1	
Oral Exam	5.00	7	
Quizzes	15.00	5	

Web Sites :

www.spe.org