

Faculty of Engineering & Technology

Petroleum Reservoir Engineering

Information :

Course Code : PE 303

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Omar Saad Ahmed Mahmoud	8
Lecturer	Omar Saad Ahmed Mahmoud	8
Assistant Lecturer	MOAMEN AHMED GASSER HASSAN KAMEL IBRAHIM KAMEL	
Teaching Assistant	Mohamed Osama Mohamed Abbas	
Teaching Assistant	AHMED NAGUIB ABDELAZIZ ABDELAZIZ GHONIM	

Area Of Study :

The course introduces the students to the various disciplines of Reservoir Engineering. Those disciplines include properties of reservoir formation and fluids, reservoir static conditions, and dynamic conditions (Darcy law, mechanics of single and multiphase fluid flow within the hydrocarbon reservoir), capillary phenomenon, fluids driving mechanisms, and the fluids balance between reservoir and surface.

Description :

Properties of reservoir formations and fluids; reservoir volumetrics, reservoir statics, reservoir dynamics. Darcy's law and the mechanics of single and multiphase fluid flow through reservoir rock, capillary phenomena, material balance, reservoir drive mechanisms.

Course outcomes :

a.Knowledge and Understanding: :

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| 1 - | To be acquainted with the various petroleum engineering disciplines |
| 2 - | To get the students perceive how the static and dynamic properties of rock and fluids in the reservoir would be under different reservoir conditions. |

b.Intellectual Skills: :

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| 1 - | To get the students be aware of how to manage the hydrocarbon reservoir and optimize production. |
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c.Professional and Practical Skills: :

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| 1 - | To get the students be able to solve any problem related to drilling, reservoir, and production Engineering.. |
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d.General and Transferable Skills: :

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| 1 - | Ability to work in team |
| 2 - | Ability to understand and predict the hydrocarbons reservoir behavior |

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	2		
Properties of reservoir formation and fluids	4		
Reservoir volumetric- static	2		
Reservoir in dynamic	2		
Reservoir driving mechanisms	4		
Capillary pressure	2		
Darcy law for single and multi phase	4		
Material Balance Equation	2		

Teaching And Learning Methodologies :

Weekly oral lectures using white board

PowerPoint presentations and data show with handouts

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	3	
Weekly tutorials and attendance	10.00	1	

Course Notes :

Available on pdf files