

Faculty of Engineering & Technology

Petroleum Engineering Design Project

Intormation	
mormation	
	_

Course Code :	PE 501	Level	:	Undergraduate	Course Hours :	3.00- Hours
Department :	Department of Petroleum Engineering					

Instructor Information :

Title	Name	Office hours
Professor	Ismail Shaaban Ismail Mahgoub	
Professor	Mohamed Alaa Eldin Mohamed Abdelbakey	
Associate Professor	taher el sabaay taher el fakhrny	
Associate Professor	Tarek Mohamed Aboul Fotoh Mohamed	
Associate Professor	taher el sabaay taher el fakhrny	
Lecturer	Mohamed Ghareeb Moustafa Ahmed	2
Assistant Lecturer	Mohamed Abdelfattah Mahmoud Darweesh	
Teaching Assistant	Ahmed Samy Amin Abulazm Mady	2

Area Of Study :

 $\hfill\square$ Manage in group with opportunity to implement the appropriate concepts and

techniques to design a particular project.

□ Implement industrial field data and use it in the designing a project.

Develop knowledge of the petroleum engineering project design.

□ Recognize to select the appropriate petroleum engineering technique to

evaluate and predict the future performance of a specific field case study.

Description :

Senior capstone design project(s) based on industry data. -Application of reservoir engineering, drilling and production engineering principles to evaluate and solve an industry problem such as a new field development, evaluation of an existing reservoir asset, or analysis of field re-development.

Course outcomes :

a.Knowledg	e and Understanding: :		
1 -	List reservoir applications to evaluate and solve an industry problem		
2 -	Describe drilling engineering to evaluate and solve an industry problem		
3 -	Explain production engineering to evaluate and solve an industry problem		
4 -	Describe logging to evaluate and solve an industry problem		
b.Intellectual Skills: :			
1 -	Investigate appropriate solutions for engineering problems based on analytical thinking and data collection.		



2 -	Develop a creative and innovative way in problem solving and design.			
c.Professio	onal and Practical Skills: :			
1 -	Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to create proper project design.			
2 -	Develop the engineering knowledge, understanding, collected data and feedback to make the integration of project design.			
3 -	Apply practical knowledge in final presentations.			
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 :

Торіс	No. of hours	Lecture	Tutorial / Practical
Future Performance Prediction for Nameless Reservoir Using Material Balance Calculations and Decline Curve Analysis.	5	3	2
Determination of the OOIP for Water Drive Reservoirs with NO Prior Knowledge of Aquifer Properties and Geometry.	10	6	4
Comparative Investigation of Well Testing Results using Horner and Saphir Software for Pressure Buildup and Drawdown Tests.	5	3	2
Diagnoses and Management of Water Production Resources in Mature Sandstone Reservoirs Using TDT and CHFR Logging Data.	10	6	4
Maximize oil Recovery by using water Flooding Technique: Simulation Study.	5	3	2
Interactive Program for Drill String Failure Detection and Prevention before and while Drilling.	5	3	2
Basis of Ideal Well Design.	10	6	4
Developing a Reservoir Zonation and Characterization Using Core-Data.	5	3	2
Basic open and cased hole logging interpretation in Oil & Gas Zones.	5	3	2
Integration of geological & engineering data in the development of oil & gas fields.	10	6	4
Uncertainly Analysis of Archie's Parameters Determination Techniques and Water Saturation in Carbonate Reservoirs.	10	6	4

Teaching And Learning Methodologies : Interactive Lecturing Discussion Report



Course Assessment :					
Methods of assessment	Relative weight %	Week No	Assess What		
Final Presentation and Report	40.00				
Project preparation	15.00				
Weekly discussion with the project supervisor	45.00				

Recommended books :	
All Petroleum Engineering References delivered previously by FUE	
Periodicals :	

Onepetro

Web Sites :

www.spe.org