Faculty of Engineering & Technology

Natural Gas Engineering

Information :

Course Code :	PE 401	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Professor	Adel Mohamed Salem Ragab	8
Teaching Assistant	Ahmed Hamdy Hafez Hassan Saied	
Teaching Assistant	Akram Rabie Hamed Ragheb Tobar	

Area Of Study :

ÅEnrich studentsô knowledge about natural gas properties, gas behavior, and gas reservoirs.
ÅTrain students for gas well test.
ÅDevelop studentôs knowledge about gas production, gas flow in pipelines, and gas treatment.

Description :

Gas reserves estimation, deliverability, and future production performance prediction. Deliverability testing of gas wells including isochronal, flow after flow, drawdown and buildup. Gas field development and underground storage. Gas production metering gauging and transmission

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Explain Gas properties and Gas behavior in the presence of water and condensate
2 -	Describe Gas reservoirs and Gas behavior in porous media
3 -	Illustrate Gas well test and Gas production
4 -	Describe Gas flow in pipelines and Gas treatment.
5 -	Understand oil well drilling, completion and work over operations
6 -	Recognize formation evaluations, well logging, well test analysis, modeling and simulation
7 -	Outline oil and gas production and production optimization and processing
b.Intellectual Skills: :	
1 -	Use principles and concepts in solving problems related to Gas properties and Gas behavior.
2 -	Apply formation evaluations, well logging, well test analysis, modeling.
3 -	Think in a creative way.

c.Professional and Practical Skills: :	
1 -	Use software in interpreting gas well test.
2 -	Calculate Saturation, Porosity.
3 -	Practice Logging Charts analysis.
4 -	Writing a technical report.
d.General and Transferable Skills: :	
1 -	Work in team
2 -	Develop communication skills
3 -	Collaborate effectively within multidisciplinary teams

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Gas properties	5	3	2
Gas behavior in the presence of water and condensate	10	6	4
Gas reservoirs	10	6	4
Gas how in porous media	10	6	4
Gas well test	10	6	4
Gas production	10	6	4
Gas flow in pipelines	10	6	4
Gas treatment	10	6	4

Teaching And Learning Methodologies :

Interactive Lecturing
Discussion
Problem Solving
Experiential Learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00		
In Class Quizzes	10.00		
Lab	10.00		
Mid-Term exams	30.00		
Participations	10.00		