

Faculty of Engineering & Technology

Intoduction to oil well drilling

Information :

Course Code : PE 202

Level : Undergraduate

Course Hours : 2.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Mohamed Alaa Eldin Mohamed Abdelbakey	2
Teaching Assistant	AHMED NAGUIB ABDELAZIZ ABDELAZIZ GHONIM	

Area Of Study :

To provide an over view of drilling process including the rig types, rig components and functions, , hoisting system, rotating system, circulating system, well control system, calculations of fastline, deadline and derrick load, drill string stresses and design, functions of drilling fluids, mud types and formulation, mud calculations

Description :

Introduction to the fundamentals of oil and gas well drilling. Fundamental physical principles and calculations used in drilling. Exposure to oil well drilling training software.

Course outcomes :

a.Knowledge and Understanding: :

1 -	be able to recognize the different types of drilling rigs and rig components
2 -	be able to recognize hoisting system components and calculations of fastline, deadline and crownload
3 -	be able to recognize the drill string stand and specifications, and drilling fluid functions

b.Intellectual Skills: :

1 -	demonstrate ability to formulate drilling fluids and design drillstring
2 -	demonstrate the ability in calculating the fastline, deadline and derrick load

c.Professional and Practical Skills: :

1 -	be able to implement the drilling techniques in a safe manner
2 -	be able to work in team work

d.General and Transferable Skills: :

1 -	be able in interpreting a variable data
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Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Types of Drilling Rigs	2	1	1
Drilling Rig Components	4	2	2

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Calculations of fastline, deadline and derrick load	2	1	1
Drill string stresses and design	4	2	2
Functions of drilling fluids	4	2	2
Mud types and formulation, mud calculations	6	3	3

Teaching And Learning Methodologies :

Weekly oral lectures using white board
Power point presentation and data show with handouts
Short duration video taps

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
assignments	20.00	1	
attendance	10.00	1	
final exam	40.00	14	
midterm-1	15.00	7	
midterm-2	15.00	12	

Course Notes :

Handouts

Recommended books :

Oil Well drilling engineering, H. Rabia

Periodicals :

www.spe.org

Web Sites :

www.spe.org