Faculty of Engineering & Technology

Drilling Engineering 1

Information :

Course Code :	PE 305	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Associate Professor	Taher El Sebaey Taher El Fakhrny	7
Associate Professor	Taher El Sebaey Taher El Fakhrny	7
Lecturer	Mohamed Ghareeb Moustafa Ahmed	
Assistant Lecturer	MOAMEN AHMED GASSER HASSAN KAMEL IBRAHIM KAMEL	
Teaching Assistant	Abdelrahman Adel Abdullah Abdelghany Kandil	
Teaching Assistant	AHMED NAGUIB ABDELAZIZ ABDELAZIZ GHONIM	
Teaching Assistant	Akram Rabie Hamed Ragheb Tobar	2
Teaching Assistant	Abdelrahman Adel Abdullah Abdelghany Kandil	

Area Of Study :

To provide a complete understanding of formation pressure perdition and formation fracture pressure calculation and prediction, casing seating depth selection and casing design, cementing operation, and cementing calculations.

Description :

Systems of units, down hole pressure and temperature relations, drill string design, hosting, rotary drilling bits (cone bits, PDC bits, diamond bits), bit selection, mud engineering (functions, types, properties, calculations and conditioning), rig hydraulics.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	be able to recognize the types formation pressure and the origin of abnormal formation pressure
2 -	be able to recognize the casing seating depth selection
3 -	be able to recognize the casing grade and weight selection and cementing
b.Intellectual Skills: :	
1 -	demonstrate ability to determine the casing depth and casing grade and weight
2 -	demonstrate the ability to make all the cementing calculations
c.Professional and Practical Skills: :	
1 -	be able to implement the casing running and cementing operations 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

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Overburden Stress	3	1	0
Formation Pressure predictions	4	1	1
Formation Fracture pressure calculation and predictions	4	2	2
Casing seating depth selection	5	1	2
Casing Design	6	2	2
Cementing Operations	6	2	2

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