

**Faculty of Engineering & Technology**

**Introduction 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	Mohsen Gad Elkarim Elnoby Mohamed	1
Teaching Assistant	Mohamed Osama Mohamed Abbas	
Teaching Assistant	Moamen Ahmed Gasser Hassan Kamel Ibrahim Kamel	
Teaching Assistant	Taha Abdelhamid Abdelmaqsoud Abdelhamid Yehia	
Teaching Assistant	Akram Rabie Hamed Ragheb Tobar	
Teaching Assistant	Ahmed Naguib Abdelaziz Abdelaziz Ghoneim	

**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
-----	---

**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Types of Drilling Rigs	2	1	1
Drilling Rig Components	4	2	2
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](http://www.spe.org)

**Web Sites :**

[www.spe.org](http://www.spe.org)