

Faculty of Engineering & Technology

Advanced Drilling Technology

Information :

Course Code : PET 509

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Associate Professor	Samir Mohamed Sayed Ahmed Khaled	4
Teaching Assistant	Abdelrahman Adel Abdullah Abdelghany Kandil	

Area Of Study :

1. Understand the Directional Drilling Planning, Calculations, Surveys, Deflecting tools, and Bottom Hole Assemblies.
2. Understand hole cleaning, and down hole problems related to directional drilling.
3. Enrich knowledge of Well Integrity.
4. Understand Cement Evaluation including Cementing Bond tools, and Zonal Isolation.

Description :

This course covers Advanced Drilling Engineering necessary subjects that will guide the students to know how to deal with new technologists while Drilling and completing different Well(s) Types (such as Underbalanced Drilling Techniques) as well as the Well Integrity (which covers: zonal isolation, evaluation of cementing bonds, inflow and outflow areas, Barriers and Barrier envelopes, Well integrity Management System).

Course outcomes :

a. Knowledge and Understanding: :

1 -	Describe an Introduction to Directional Drilling.
2 -	Describe the Fundamentals of Directional Drilling, Survey, and Down Hole Problems.
3 -	Classify the Directional Drilling Profiles, Types, Calculations, Bottom Hole Assemblies, and Deflecting tools.
4 -	Illustrate the effect of Drilling fluids properties on Hole cleaning.
5 -	Define Introduction and understanding of Well Integrity
6 -	Describe the Inflow, out flow areas, and Zonal Isolation.
7 -	Classify Cementing bonds tools and cement evaluation.
8 -	Explain the WI requirements for Completion string and Well head.

b. Intellectual Skills: :

1 -	Apply principles and concepts of well design in solving Drilling problems.
2 -	Apply updating Drilling Engineering software.
3 -	Demonstrate Presentation skills in Drilling Engineering.

Course Notes :

Course Handouts

Recommended books :

1. Drilling Engineering Workbook
2. Drilling Manuals from Different Oil & Gas Companies Such as: Shell and ENI.