

Faculty of Engineering & Technology

Subsurface Production Engineering

Information :

Course Code : PE 408

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

Title	Name	Office hours
Professor	Ismail Shaaban Ismail Mahgoub	23
Lecturer	Mostafa Magdy El Sayed Abd El Hafiz	
Assistant Lecturer	MOAMEN AHMED GASSER HASSAN KAMEL IBRAHIM KAMEL	
Teaching Assistant	Akram Rabie Hamed Ragheb Tobar	2

Area Of Study :

Prepare to introduce completion techniques and equipment
 Train to introduce perforating methods and techniques
 Develop skills to present Wellhead and downhole equipment
 Enrich knowledge about Hydraulic fracturing, Acidizing, Squeeze Cementing and Scale Removal Technique .

Description :

Study of the fundamentals and applications of completion and workover operations including various completion designs, reservoir and mechanical considerations, basic tubing design, subsurface equipment, completion and workover fluids, perforating, stimulation, sand control and remedial cementing. Horizontal well completion technology. Laboratory sessions involve actual completion and workover problem solving, and demonstration of the design and operation of basic completion and control equipment.

Course outcomes :

a. Knowledge and Understanding: :

- 1 - List various completion equipment and techniques
- 2 - Explain the appropriate methods needed to design a well completion
- 3 - Recognize all the different methods to complete oil and gas wells

b. Intellectual Skills: :

- 1 - Apply methods, of completion design requirement
- 2 - Interpret the different completion techniques

c. Professional and Practical Skills: :

- 1 - Compute the completion design requirement
- 2 - Perform practical application of different completion schemes

d.General and Transferable Skills: :

1 -	Communicate effectively
2 -	work through a team work

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Completion Design philosophy Type of well completion, Interval selection	5	3	2
Tubular Goods and Loading Analysis Subsurface Equipment, Packers, nipples, ..., etc. Subsurface completion and Production Control Equipment Completion and work over fluids Perforating techniques	30	18	12
Sand control, Formation Damage	10	6	4
Well stimulation	15	9	6
Work over Planning & Cost Control Work over Operations	15	9	6

Teaching And Learning Methodologies :

Interactive Lecturing
Discussion
Problem-based Learning
Research

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	10.00		
Final Exam	40.00		
Mid-Term exam	30.00		
Quizzes	10.00		
Reports	10.00		