

**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
Lecturer	Mohsen Gad Elkarim Elnoby Mohamed	

**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 :**

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Tutorial / Practical</b>
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 :**

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