

**Faculty of Engineering & Technology**  
**Petroleum Economics and Asset Valuation**

**Information :**

**Course Code :** PE 505      **Level :** Undergraduate      **Course Hours :** 2.00- Hours

**Department :** Department of Petroleum Engineering

**Instructor Information :**

Title	Name	Office hours
Professor	Ismail Shaaban Ismail Mahgoub	1
Professor	Ismail Shaaban Ismail Mahgoub	1
Lecturer	Mostafa Magdy El Sayed Abd El Hafiz	
Lecturer	Alaa Mohamed Ali Ali	9
Teaching Assistant	Akram Rabie Hamed Ragheb Tobar	
Teaching Assistant	Mohamed Osama Mohamed Abbas	
Teaching Assistant	Abdelrahman Adel Abdullah Abdelghany Kandil	
Teaching Assistant	Reham Shawket Mostafa Taha Khalaaf	

**Area Of Study :**

The Main Goals of this course are preparing students to:

• Enrich knowledge for the difference between Petroleum macroeconomic and Petroleum microeconomic.

• Demonstrate knowledge and methods of predict, forecast, analysis and estimated the factors affecting on the international petroleum activities.

• Train to predict oil and gas prices in the international petroleum markets.

**Description :**

Uncertainty in the estimation of oil and gas reserves; tangible and intangible investment costs; depreciation; evaluation of producing properties; federal income tax considerations; chance factor and risk determination. Petroleum economic evaluation software is introduced.

**Course outcomes :**

**a. Knowledge and Understanding: :**

1 -	Describe economic evaluation and economic analyses for petroleum projects and decision in different situation
2 -	State the different economics indicator in evaluation petroleum project
3 -	Explain the evaluation of oil projects decisions related to the drilling activities, exploration and development activities
4 -	Illustrate the economic methods for value estimation of petroleum wells.
5 -	List the different factor effected in International oil market
6 -	Select International oil organization

7 -	Classify the factors effect in the international oil market and how the price determined in international oil market
<b>b.Intellectual Skills: :</b>	
1 -	Demonstrate different techniques for evaluate the petroleum decisions related to bid round development decision, drilling and completion well.
2 -	Apply the different methods for Valuation of Petroleum Projects
<b>c. Professional and Practical Skills: :</b>	
1 -	Use software tools for estimated . Net cash flow . Net cash flow . Net present value to evaluate the petroleum assets and projects.
2 -	Use software tools for estimated internal rate of return (IRR), payback period . Discounted payback and the profitability index.
<b>d.General and Transferable Skills: :</b>	
1 -	Use efficiently IT capabilities.

### **Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to Petroleum Microeconomics and petroleum macroeconomics.	2	2	4
Cash flow . Discounted cash flow for petroleum projects.	2	2	4
pay out / payback period. / discounted pay back	2	2	4
Economic Yardsticks for petroleum projects- Present value, net present value, IRR ( internal rate of return ), Rate of investment, and Profitability index	4	4	8
Discovery and well economics valuation	4	4	8
Oil and Gas Decision to Complete a Well	2	2	4
Assets valuation	4	4	8
Oil Peak and Hubbert Curve	2	2	4
Oil Economics In International Market	4	4	8
Forecasting	4	4	8

### **Teaching And Learning Methodologies :**

Interactive Lecturing
Discussion

### **Course Assessment :**

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

