

## Faculty of Engineering & Technology

### Depositional Systems

#### Information :

**Course Code :** GEO 302

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Petroleum Engineering

#### Instructor Information :

Title	Name	Office hours
Associate Professor	Mostafa Abdou Roshdy Ahmed Teama	6
Assistant Lecturer	YOUSSEF ELSAYED ABDELHAFEZ KANDIEL	

#### Area Of Study :

Expand the scope of knowledge of the petroleum engineer to include the importance of Environment of Deposition.  
 Determine Origin and classification of sedimentary rocks - Weathering . Erosion - Residual deposits and soils.  
 Classify Carbonate deposits: their composition and classification - Siliciclastic deposits: their composition and classification.

#### Description :

Analysis and interpretation of seismic, well logs (including borehole image logs), core, and outcrop characteristics of the component elements of sedimentary rocks and emphasizes internal architecture as related to petroleum system. Geologic control on reservoir equality, new concepts in understanding transport and depositional processes, geologic modelling and petroleum systems.

#### Course outcomes :

##### a.Knowledge and Understanding: :

1 -	Describe the different sedimentary processes such as; weathering, erosion and lithification.
2 -	List the classification of sediments and sedimentary rocks, including: Rudaceous deposits: their composition and classification Arenaceous deposits: their composition and classification Argillaceous deposits and Clay minerals Carbonate rocks: limestone and dolostone
3 -	Explain Rudaceous deposits: their composition and classification
4 -	Outline methods directing and monitoring oil and gas drilling operations

##### b.Intellectual Skills: :

1 -	Solve depositional problems using the gained principles and concepts
2 -	Analyse the sedimentary features and their implications

##### c.Professional and Practical Skills: :

1 -	Identify the sedimentary rock in hand samples
2 -	Identify the probable depositional systems
3 -	Interpret the results of mechanical analysis

##### d.General and Transferable Skills: :

1 -	Work in team and solve problems
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2 -	Search for information and write a geo-engineering report
3 -	Develop communication skills via field trip to Abu Roash area.

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

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Tutorial / Practical</b>
Origin and classification of sedimentary rocks	9	6	3
Sedimentary Structures and permeability (H & V)	8	6	2
Continental depositional systems	12	9	3
Transitional depositional systems	12	9	3
Marine depositional systems	11	9	2
Sedimentary rocks and petroleum system	4	3	1
Secondary reservoir rocks	4	3	1

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

Interactive lecturing and discussion
Problem-solving
Presentation/Research

### **Course Assessment :**

<b>Methods of assessment</b>	<b>Relative weight %</b>	<b>Week No</b>	<b>Assess What</b>
Final exam	40.00		
Mid-Term exam	25.00		
Quizzes	20.00		
Report and assignments	15.00		