Course Description Form

Basic Course Specifications					
Course Title	:	**Offshore engineering**			
Course Code	:	**OS 413**			
Program on which the course is given	:	❒ **Bachelor**	❒ **Diploma**	☐ **Master**	☐**Pre- PhD**
Academic year	:	**2015/2016**			
Specialization (units of study)	:	Theoretical (64. hrs) Simulator (.0. hrs) Practical (..0 hrs) Credit (2H)			
Pre-Requisites	:	None			

Overall Course Objectives

Students successfully completing this course will be able to know the fundamental standards of the oil industry such as:

- Offshore structure.
- Offshore foundation
- Drilling and production.
- Offshore environment design criteria
- Platform decommissioning
- Sub-sea pipelines transportation
- Processing of hydrocarbons

Intended Learning Outcomes

Knowledge and Understanding

At the end of the course, students should be able to:

A1 Describe types of seabed.
A2 Have Overview about oil extraction.
A3 Describe the formation of oil & Gas.
A4 Describe subsea wells
A5 Identify design concepts of offshore installations.
A6 Identify the types of material used for drilling

Intellectual Skills

At the end of the course, students should be able to:

B1 Identify the Extraction Methods of Oil and gas
B2 T Describe types of rigs used
B3 The diversity of soil form

Professional and Practical skills

At the end of the course, students should be able to:
C1 Understand how to extracting oil from the bottom of the sea.
C2 Understand how to create subsea wells
C3 Describe how are produced Oil and Natural Gas

General and Transferable skills

At the end of the course, students should be able to:
D1 Identify the different stages of the drilling operations.
D2 Identify the tools and materials used in each stage of the drilling.
D3 Understand the ways of drilling operations in the different types of bottom

Course content

Lect. #	Topic	Hrs.#	Theoretical	Practical	Simulator
1	Introduction - Crude oil Heavy oil	4	4		
2	Natural Gas - Industrially uses - Source Rock Elements in creation of a crude oil and - Gas field	4	4		
3	Subsurface temperature – Migration - Seals, Trap, Reservoir. - The major Classes of Hydrocarbons in crude oils - Petroleum products used for engine fuels	4	4		
4	Definitions of different gases - underground “lake” of oil - Geological shifts resulted Reservoirs	4	4		
5	Deep water wells - Types of measuring regimes wire line measurement - while drilling measurement	4	4		
6	Types of measuring regimes - The logging methods - Gamma ray log measures	4	4		
7	Revision - 7th Week Examination.	4	4		
8	Selection of Deep-water Production Concepts subsea wells - submerged Christmas tree work over	4	4		
9	Introduction - Well construction - oil tubing Blanket gas - The CEMENT JOB	4	4		
10	Platforms types	4	4		
11	drilling operations – completion - production abandonment	4	4		
12	Revision 12th week Exam	4	4		
13	Mud System Standard Configuration Drilling the Well - Drilling Bits - Horizontal Drilling - Well Completion - Conducting Drill Stem Test	4	4		
14	some concepts of fishing and milling	4	4		

	operations Economics of Fishing				
15	production of oil and gas - Control Systems and Safety - Some Concepts of Computer Control System- platform decommissioning Possible Decommissioning Options Criteria for Decommissioning Solution	4	4		
16	Final Examination.	4	4		

Teaching & learning methods

Explanation of the lesson contents – discussing and asking questions to interact with students – solving examples and classroom tasks.

Facilities required for Teaching & learning methods

❒ **Projector**	❒ Overhead Slide	❒ **Books**	❒ **Video**	❒ Audio Cassette

Students Assessment Methods

Assessment Schedule

Assessment#1	Week 7
Assessment#1	Week 12
Assessment#1	Week 16

Grading Method

Attendance		
7th Week Examination	❒	**30 Marks**
12th week exam	❒	**20 Marks**
Assignments	❒	**5 Marks**
Projects		
Participation	❒	**2.5 Marks**
Oral Examination	❒	**2.5 Marks**
Final Examination	❒	**40 Marks**
		Total 100%

*Assessment criteria shall meet the standards of the STCW 78 convention "as amended""; and in the light of therelated IMO model courses.

List of References

Course Notes

Description	:	Lecture notes recommended and revised by the course coordinator(s).

Essential Books		
Description	:	introduction to offshore oil and gas industry
Recommended Books		
Description	:	introduction to offshore oil and gas industry
Periodicals and publications		
Description	:	
Others (websites, e-books…etc.)		
Description	:	Nil