

Offshore Units & Handling

Basic Course Specification		
Course Title	Course Code	Program on which the course is given
Offshore Units & Handling	OS 414	Bachelor
Academic Year	Specialization (units of study)	Pre-Requisites
2020-2021	Theoretical 1 hrs./week Application 3hrs./week Credit 2 Cr	BS 214

Overall Course Objectives

On completion of this course, students should be gaining the knowledge for the types of vessels operating in the offshore in terms of design and equipping of offshore units to help them carry out its tasks safely. As well as platforms and rigs which the offshore vessels are supplying them by their needs and towing it from location to another and provides the knowledge of offshore vessels handling during the operations in oil fields and ports by understanding the effect of controllable factors and uncontrollable factors which affecting in the maneuvering for offshore vessels and explain the maneuvering and operation between offshore vessels and offshore unit.

Course Learning Outcomes By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. Describe all types of offshore units	e	√		√	
2. Understand the characteristics of offshore vessels.	h	√	√		√
3. Recognize the capabilities of the supply vessels on maneuvers.	i	√	√		√
4. Describe the functions of each type of Supply Vessels and offshore installations.	i	√			√
5. Recognize the ability of offshore vessels on maneuvers in different weather conditions	d		√	√	√

Course Content

Lec./ Week #	Topic	Hrs. #	Theoretical	Application
1	Introduction. Anchor Handling & Towing Vessels (AHT).	4	1	3
2	Safety Standby Vessels (SSBV). Platform supply vessels (PSV) & barges	4	1	3
3	Cont. Platform supply vessels (PSV), barges Pipe laying vessels.	4	1	3

Course Content				
Lec./ Week #	Topic	Hrs. #	Theoretical	Application
	Cable laying vessels			
4	Diving support vessels. MPSV, Tugs & crew boats	4	1	3
5	Ship handling offshore vessels. Bollard Pull reduction. Squat, interaction and bank effect.	4	1	3
6	Big small vessel interaction. Shallow water effect. Effect of Wind, current & tidal force.	4	1	3
7	7th Week Exam	4	1	3
8	Propulsion & steering Introduction- Fixed Pitch Propellers- Controllable Pitch Propellers-Ducted Propellers- Voith-Schneider Propellers- Thrusters- Water Jets propeller-	4	1	3
9	Transverse thrust (going ahead-going astern) & CPP awareness. Use of propellers alongside pier, FPSO	4	1	3
10	Thrusters: reduction in thrust and limitations of thrusters. Pivoting point: definition of pivoting point , pivoting point when moving ahead, astern and stopped.	4	1	3
11	Dynamic Positioning: What is the dynamic positioning? When it used? 6Degrees of freedom, various modes and numbers of gyros.	4	1	3
12	12th Week Exam	4	1	3
13	Offshore drilling structures on Discard. main categories of drilling rig structures used offshore, Self-elevating Drilling Rigs, Submersible Drilling Rigs	4	1	3
14	Semisubmersible Drilling Rig, Floating Offshore Drilling Rigs (Floaters). Drilling vessels.	4	1	3
15	Types of offshore platforms: (Oil platforms, Fixed platforms, Semi-submersible Platform, Jack-up). Bottom-supported Platforms, Floating production storage and offloading system (FPSO)	4	1	3
16	Final Assessment			
Total Hours		60	15	45

Course Content				
Lec./ Week #	Topic	Hrs. #	Theoretical	Application
Teaching & Learning Methods		Facilities Required for Teaching & Learning Methods		
<ul style="list-style-type: none">Explaining and demonstrating the lesson contentsDelivery of experienceDiscussing and asking questions to interact with students - Solving examples.		White Board& Data Show		
Students Assessment Methods				
Assessment Schedule				
Assessment#1		Week 7		
Assessment#2		Week 12		
Assessment#3		Week 16		
Grading Method				
Midterm Assessment	Written exam		30%	
12 th week Assessment	Written exam		20%	
Class Activities	Participation – Quiz		10%	
Final Exam	Written exam		40%	
Total			100 %	
Assessment criteria shall meet the standards of the STCW 78 convention "as amended"; and in the light of the related IMO model courses.				
Staff Requirements				
Master FG/Ph.D.				
List of References				
Course Notes		Essential Books		
Lecturer notes		Offshore support vessels		
Recommended Books		Periodicals and Publications		
<ul style="list-style-type: none">Offshore Service vessels ,Tugs and Special shipsGuidelines for Offshore Marine Operations		A practical guide to the mooring and anchoring of small boats. Maersk training course.		
Others (websites, e-books...etc)				
None				

Accreditation Bodies
*Egyptian Authority for Maritime Safety (EAMS)
*European Commission (EC)
ISO (9001 – 2015) DNV-GL
*Central Evaluation and Accreditation Agency Hanover, Germany (ZEVA)
*Ministry of Education (KSA)
Ministry of Higher Education (Greece)*
*Ministry of Higher Education (Oman)
*Commission for Academic Accreditation (CAA), Ministry of higher Education (UAE)
*University of Plymouth, United Kingdom (dual degree)

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