



SRI VENKATESWARA COLLEGE OF ENGINEERING

COURSE DELIVERY PLAN - THEORY

Page 1 of 6

Department of Marine Engineering		LP: MR18016
		Rev. No: 00
B.E/B.Tech/M.E/M.Tech : Marine Engineering Regulation: 2018		Date: 28.02.2022
PG Specialisation : Not applicable		
Sub. Code / Sub. Name : MR18016 OFF SHORE TECHNOLOGY		
Unit : I INTRODUCTION TO OFF SHORE OIL AND GAS		

Unit Syllabus: Introduction to off shore oil and gas operation, sea state and weather, off shore fixed and mobile units, off shore drilling, fixed platform, jack up and semi submersibles rigs.

Objective: Off shore oil field, off shore installations.

Session No. *	Topics to be covered	Ref	Teaching Aids
1	Introduction to off shore oil and gas operation	1.1 .1page-1-4	PPT/BB
2	sea state	3.7.1page-128	PPT/BB
3	Weather	3.7.2Page-131	PPT/BB
4	off shore fixed	1.4.1page-16	PPT/BB
5	mobile units	1.4.3page-17	PPT/BB
6	off shore drilling	1.3.1page-11	PPT/BB
7	fixed platform	1.4.3page-17	PPT/BB
8	jack up	1.5.4page21	PPT/BB
9	semi submersibles rigs	1.7.5.1page-28	PPT/BB
Content beyond syllabus covered (if any):			

* Session duration: 50 mins



Sub. Code / Sub. Name: MR18016 OFF SHORE TECHNOLOGY

Unit : II TYPES OF OFF SHORE VESSELS

Unit Syllabus: Types of vessels, Anchor handling vessel, supply vessels, tug, pipe laying vessels, diving support vessels, drilling vessels. Power production and management, DP installations Anchor handling ship equipment's and its use.

Objective: Off shore vessels types and its uses.

Session No *	Topics to be covered	Ref	Teaching Aids
10	Types of vessels,	Ref. Book 4	PPT/BB
11	Anchor handling vessel	Ref. Book 4	PPT/BB
12	supply vessels,	Ref. Book 4	PPT/BB
13	tug,	Ref. Book 4	PPT/BB
14	pipe laying vessels,	Ref. Book 4	PPT/BB
15	diving support vessels,	Ref. Book 4	PPT/BB
16	drilling vessels.	Ref. Book 4	PPT/BB
17	Power production and management,	Ref. Book 4	PPT/BB
18	DP installations Anchor handling ship equipment's and its use	Ref. Book 4	PPT/BB

Content beyond syllabus covered (if any):

* Session duration: 50 mins

**Sub. Code / Sub. Name: MRI8016 OFF SHORE TECHNOLOGY****Unit: III DP VESSEL OPERATING SYSTEM**

Unit Syllabus: Vessel operating systems, DP system, power system, Thruster system, DP control system, position reference system, Environmental and motion sensors, operator control stations, DP Operator, Different working principles of DPI, II, III, Various DP reference instruments, operations, Engine room arrangements and various off shore equipment's and its operations

Objective: Difference DP Vessels operation and its main machineries, sensors.

Session No *	Topics to be covered	Ref	Teaching Aids
19	Vessel operating systems,	Ch-2-page-1	PPT/BB
20	DP system, power system,	Ch2-page-2	PPT/BB
21	Thruster system, DP control system,	Ch-2-page-2	PPT/BB
22	position reference system, Environmental and motion sensors,	Ch-3-page-6-7	PPT/BB
23	operator control stations, DP Operator,	Ch-3-page-9	PPT/BB
24	Different working principles of DPI, II, III,	Ch-2-page-3	PPT/BB
25	Various DP reference instruments, operations	Ch-3page-6-10	PPT/BB
26	Engine room arrangements	Ch-3-page-4-7	PPT/BB
27	various off shore equipment's and its operations.	Ch-3-page-2-10	PPT/BB
Content beyond syllabus covered (if any):			

* Session duration: 50 mins

**Sub. Code / Sub. Name: MR18016 OFF SHORE TECHNOLOGY****Unit : IV****THRUSTERS AND SENSORS**

Unit Syllabus: Different types of thrusters, its operations, DGPS, Wind sensors, VRU, MRU, Tout wire Various other sensors, operating parameters of DP system, Inspections, testing procedure, DP FMEA Trail, DP Proving trials, DP Periodic trials, DP Annual trials, Special trails and its method

Objective: DP Trails and test, defect analyzing

Session No *	Topics to be covered	Ref	Teaching Aids
28	Different types of thrusters, its operations,	Ch-1-page-2	PPT/BB
29	DGPS, Wind sensors, VRU, MRU,	Ch-6-page-14	PPT/BB
30	Tout wire Various other sensors,	Ch-6-page-15	PPT/BB
31	operating parameters of DP system,	Ch-6-page-16	PPT/BB
32	Inspections, Testing procedure,	Ch-6-page-14	PPT/BB
33	DP FMEA Trail,	Ch-6-page-13	PPT/BB
34	DP Proving trials,	Ch-6-page-13	PPT/BB
35	DP Periodic trials,	Ch-6-page-13	PPT/BB
36	DP Annual trials, Special trails and its method,	Ch-6-page-14	PPT/BB

Content beyond syllabus covered (if any):

* Session duration: 50 mins



Sub. Code / Sub. Name: MR18016 OFF SHORE TECHNOLOGY

Unit : V

OFF SHORE SAFETY

Unit Syllabus: Off shore safety, on board drills, safe working procedure on board the off shore vessel cargo handling procedures. Different DP related safety course

Objective: Off shore ships safe working, various ships drills, DP operations, DP trail

Session No *	Topics to be covered	Ref	Teaching Aids
37	Off shore	Ref. Book 3	PPT/BB
38	safety	Ref. Book 3	PPT/BB
39	on board drills.	Ref. Book 3	PPT/BB
40	safe working	Ref. Book 3	PPT/BB
41	procedure course	Ref. Book 3	PPT/BB
42	on board the off shore vessel	Ref. Book 3	PPT/BB
43	cargo handling procedures	Ref. Book 3	PPT/BB
44	Different DP related	Ref. Book 3	PPT/BB
45	safety	Ref. Book 3	PPT/BB

Content beyond syllabus covered (if any):

* Session duration: 50 mins

**OUTCOMES:**

Student will have the knowledge of

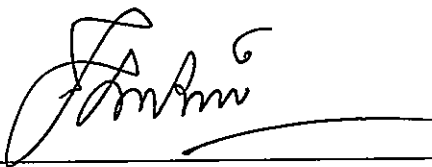

- Off shore oil field, off shore installations.
- Off shore vessels types and its uses.
- Difference DP Vessels operation and its main machineries, sensors.
- DP Trails and test, defect analyzing
- Off shore ships safe working, various ships drills, DP operations, DP trails

TEXT BOOKS:

1. DP Operation guidance by Marine Technology society, 2012.
2. Introduction to Dynamic positioning system. By USCG national Introduction to Dynamic positioning system. By USCG national center of Expertise, 01.12.2019.
3. Hand book of offshore Engineering-SUBRATA K. CHAKRABARTI-Offshore Structure Analysis, Inc. Plainfield, Illinois, USA-Volume -1

REFERENCES:

1. Dynamic positioning system by ABS JULY 2014.
2. Dynamic position induction course training manual by OMT (ODessa MARITIME TRAINING CENTER) UKRAINE
3. Marine and Offshore Engineering by T.V. Ramakrishnan
4. Chief Engineer Study Guide: Off Shore Supply Vessel (OSV) by Timothy Spears

	Prepared by	Approved by
Signature		
Name	Prof. S. KALIDOSS	Prof. S. KRISHNAN
Designation	PROFESSOR & ASST. HoD	PROFESSOR & HoD
Date	28.02.2022	28.02.2022