

Maritime Environmental Management

Basic Course Specification		
Course Title	Course Code	Program on which the course is given
Maritime Environmental Management	SP 496	Bachelor
Academic Year	Specialization (units of study)	Pre-Requisites
2020-2021	Theoretical 1hrs ./week Application 3 hrs./week Credit 2 Cr	NS 417

Overall Course Objectives

On completion of the course, students will be able to provide an understanding and identifying the contemporary environmental issues in port & shipping industries and Air quality in port (Port emissions)/Environmental management of the port and chain operations/Noise, Energy management and Impact of climate changes on port infrastructures/Waste management in port: environmental aspects of ports and waste management/Economics of environmental protection.

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. Determine the benefits of reducing the gas emissions from ships and ports.	e, f	√		√	
2. Apply energy management aboard vessels and recognize noise sources in ports.	e, f	√	√	√	
3. Assess the environmental protection standards and requirements with application.	e, f		√	√	√
4. Identify the appropriate instruments and relevant maritime environmental regulations to control the ship-originated pollution.	f, i, j			√	√

Course Content

Lec./ Week #	Topic	Hrs. #	Theoretical	Application
1	<ul style="list-style-type: none"> • Port Management: Basics • Contemporary Environmental Issues in Port and Shipping Industries 	4	1	3
2	<ul style="list-style-type: none"> • Greenhouse Gases (GHG) • Options to comply with the New MARPOL, Annex VI Regulations 	4	1	3
3	Options to comply with the New MARPOL, Annex VI Regulations (continue)	4	1	3
4	<ul style="list-style-type: none"> • Emissions trading • Case Study: Port of ROTTERDAM (PoR) 	4	1	3
5	Port Infrastructure Adaption to Climate Change	4	1	3

Course Content				
Lec./ Week #	Topic	Hrs. #	Theoretical	Application
6	<ul style="list-style-type: none"> Environmental Challenge – Global Supply Chain: Daily hinterland transport “system” 	4	1	3
7	<ul style="list-style-type: none"> General review 7th Week Exam 	4	1	3
8	<ul style="list-style-type: none"> Introduction of energy efficiency management Ship operational concerns introduced by the Directive 	4	1	3
9	<ul style="list-style-type: none"> Port Energy Management Plan 	4	1	3
10	<ul style="list-style-type: none"> Study Cases: Port Energy Management Plan Noise Problem 	4	1	3
11	<ul style="list-style-type: none"> Noise causes Noise related regulations 	4	1	3
12	<ul style="list-style-type: none"> General review 12th Week Exam 	4	1	3
13	<ul style="list-style-type: none"> Introduction to Waste and Waste Management Preventing waste 	4	1	3
14	<ul style="list-style-type: none"> Preventing waste (continue) Economics of environmental protection 	4	1	3
15	<ul style="list-style-type: none"> Internalizing the Externality Corrective Taxes vs. Regulations 	4	1	3
16	Final Assessment			
Total Hours		60	15	45

Teaching & Learning Methods		Facilities Required for Teaching & Learning Methods	
Explaining and demonstrating the lesson contents – Delivery of experience - discussing 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	<ul style="list-style-type: none"> • Buhaug, Ø., Corbett, J. J., Endresen, Ø., Eyring, V., Faber, J., Hanayama, S., & Yoshida, K. (2009). Second imoghg study 2009. International Maritime Organization (IMO), London, UK, 24. • Cannon, J. S. (2008). <i>U.S. Container Ports and Air Pollution: A Perfect Storm</i>. An Energy Futures, Inc. Study. • ESPO (2009). <i>PORT ENVIRONMENT REVIEW 2009</i>. 16 April 2009. • ESPO (2005). Review of European Performance in Port Environmental Management. <i>ESPO Environmental Survey 2004</i>. Apr 2005. • ESPO (2010). <i>ESPO-EcoPorts Port Environmental Review 2009</i>. Executive Summary.
Recommended Books	Periodicals and Publications
None	<ul style="list-style-type: none"> • Stenvert, R. and Penfold, A. (2010). <i>Container port strategy – Emerging issues</i>. Ocean Shipping Consultants Ltd. • Cariou, P. (2011). Is slow steaming a sustainable means of reducing CO2 emissions from container shipping, <i>Transportation Research Part D</i>, 16, 260-264. • Cariou, P. (2011). The effectiveness of a European speed limit versus an international
Others (websites, e-books...etc)	
None	

Accreditation Bodies
<ul style="list-style-type: none"> *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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