Course Title	Nautical Electronic Instruments						
Course Code	MANS-213						
Course Type	Required						
Level	1 st Cycle						
Year / Semester	2 nd Year, Fall Semester						
Teacher's Name	Captain Hatzis Ioannis						
ECTS	6	Theory	Laboratory	Simulation	Tutorial		
		3		1			
Course Purpose and Objectives	The main objectives of the course are to:						
	present the marine compasses (other than magnetic)						
	present the marine steering gear systems						
	present the marine speed logs						
	present the marine echo sounders						
	present the electronic docking systems						
	present the Long Range Identification and Tracking receiver						
	present the Bridge Navigational Watch Alarm System						
	present the satellite navigation systems						
	present the Automatic Identification System						
	present the course recorder						
	present the Voyage Data Recorder - SVDR						
	present the hyperbolic navigation systems						
Learning Outcomes	After completion of the course students are expected to be able to:						
	comprehend the working principles of the above equipment						
	follow the proper operational procedures for each instrument						
	• take into consideration the standard and variable errors of the equipment						
	cope with the most common malfunctions						
	meet the necessary maintenance requirements						
	 recognize the capabilities and limitations of the equipment 						

	enhance the navigational development of the information provided						
Prerequisites	MANS	-104	Requir	ed	MAN	NS-214	
Course Content	Marine compasses of all types (other than magnetic)						
	Automatic steering gear systems						
	Speed logs						
	Echo sounders						
	Docking systems						
	• LRIT						
	BNWAS						
	Satellite navigation principles						
	Global Positioning System - Galileo						
	• AIS						
	Data recorder						
	VDR - SVDR						
	Hyperbolic navigation systems						
	• e - LORAN						
Teaching Methodology	Lectures, in-class assignments, sound and video equipment, computer, projector, the above electronic instruments or Bridge simulator or other equivalent method						
Bibliography		tbooks/Reading	-	1	1		
	Authors	Title	- 1:	Publisher	Year	ISBN	
	Tetley, L., Calcutt, D.	Electronic navig systems, 3 rd Edi		Elsevier, London	2001	0750651385	
	Recommended Textbooks/Reading:						
	Authors	Title		Publisher	Year	ISBN	
	Stephen, F. Appleyard	Marine Electroni Navigation, 2 nd		Taylor & Francis	2006	9781134963 096	
	IMO	Performance standards for sh borne radio communications navigational equipment	-	IMO	2011	978-92-801- 15239	
Assessment	Homework, in	-class assignmen	ts, projec	cts, exams, fin	al exam		

Language	English
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