

Course Title	Maritime Safety and regulatory framework				
Course Code	MAEN501				
Course Type	Required				
Level	Master's Level				
Year / Semester	1 / 1				
Teacher's Name					
ECTS	8	Lectures / week	2	Laboratories / week	0
Course Purpose and Objectives	The aim of this course is to provide special knowledge of maritime safety and regulatory framework.				
Learning Outcomes	<p>By the end of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Categorize and compare International Maritime Regulations and maritime legislative organizations.</li> <li>• Design and construct a procedures' plan, analyzing the actions to be done in case of ship's emergency situations, concerning the International Maritime Regulations.</li> </ul>				
Prerequisites	MAEN500 pass, only for those not holding a degree in marine related fields (no background in shipping).	Required			
Course Content	<ul style="list-style-type: none"> <li>• International Maritime Regulations and Safety of Life and Environment. legislation and legislative organizations; Administrations, Classification Societies, MARPOL, M-Notice types, H&amp;S at work, IMO, SOLAS, ISM, STCW, COSWP.</li> <li>• IMO regulations on energy efficiency and emissions and their influence on ship machinery/systems selection and operations</li> <li>• Concept of Maintenance, risk assessment and condition monitoring. Watchkeeping requirements on main propulsion and auxiliary engines. Safe preparation and shutdown of main propulsion and auxiliary engines. Starting, stopping and control of main propulsion and auxiliary engines. Procedures for emergency situations.</li> <li>• Intact and damaged stability, damage control plan and damage control booklet, watertight subdivision of a ships and actions for maintaining it after an incident/accident. Load lines, draft marks, the load line survey, identifying items included in the survey. Measurement of tonnage and displacement. Different types of drydocking, and procedures to enter and leave a drydock.</li> <li>• International collision regulations and global standards, international conventions and codes relating to search and rescue, international maritime traffic, load lines, the carriage of dangerous goods and tonnage measurement, relevant standards for radio communications and relevant equipment</li> <li>• Carriage of cargo and containers, evaluation of safety and pollution hazards of packaged dangerous goods, solid bulk cargoes and gas cargoes</li> <li>• Fire protection, prevention, fighting, and survey of fire appliances.</li> </ul>				

Teaching Methodology	The course will be delivered through lectures, discussions, and presentations augmented by consultations with staff during office hours, home and library study.
Educational activities encourage the active participation of students in the learning process	<p>During the course attending, the students will be encouraged to construct and present written semester assignments concerning aspects like:</p> <ul style="list-style-type: none"> <li>• analysis of real marine accidents (ship collision, grounding, sinking, fire etc)</li> <li>• comparison of procedure plans, analyzing the actions to be done (a) in case of ship accident, (b) preventing ship accident</li> </ul>
Recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies	<p>Parallel with the course attending, the students will be recommended to attend seminars co-organized by the FU and the collaborating ship company, concerning aspects like:</p> <ul style="list-style-type: none"> <li>• real marine accidents (ship collision, grounding, sinking, fire etc)</li> <li>• ship emergency procedures plans: (a) in case of ship accident, (b) preventing ship accident</li> </ul>
Recommended synergies between teaching and research that could provide the students engagement in research activities	<p>The students will be encouraged to create and present papers in marine focused conferences, based on their semester assignments, in order to produce the base of their MSc Dissertation, concerning aspects like:</p> <ul style="list-style-type: none"> <li>• improving the maritime regulatory framework for more realistic analysis and/or prevention of various ship accidents</li> <li>• comparing the factors that led to ship accidents</li> <li>• evaluating ship emergency plans</li> </ul>
Bibliography	<p><b>Textbooks:</b></p> <ul style="list-style-type: none"> <li>• Trafford, S.M., (2009). Maritime Safety: The Human Factors. Book Guild Ltd.</li> <li>• Tortora, S.P., (2014). Study Guide for Marine Fire Prevention, Firefighting, &amp; Fire Safety</li> <li>• Adams, B., Merk, D., Lewis, J.F., (2010). Marine Fire Fighting.</li> <li>• ABS Consulting, (2001). Marine Safety: Tools for Risk-Based Decision Making.</li> <li>• Office of The Investigator General, (2018). Marine accident reporting, investigations, and enforcement in the United States Coast Guard.</li> <li>• Moscow, A., (2018). Collision Course: The Classic Story of the Collision of the Andrea Doria and the Stockholm.</li> <li>• Gluver, H. and Olsen, D., (1998). Ship Collision Analysis.</li> </ul> <p><b>Other Reading:</b></p> <ul style="list-style-type: none"> <li>• Talley, W., (2008). Maritime Safety, Security and Piracy. Informa Law from Routledge.</li> <li>• Meurn, R.J., (2006). Survival Guide For The Mariner.</li> <li>• National Transportation Safety Board, (2014). Marine Accident Report: Collision of the Tankship Elka Apollon With the Containership MSC Nederland Houston Ship Channel, Upper Galveston Bay, Texas.</li> <li>• Safety Board, National Transportation, (2015). Marine Accident Report Collision Between U.S. Coast Guard Vessel CG 33118 and Sea Ray</li> </ul>

	<p>Recreational Vessel CF 2607 PZ San Diego Bay, California.</p> <ul style="list-style-type: none"> <li>• Safety Board, National Transportation, (2015). Marine Accident Report: Sinking of the U.S. Fish Processing Vessel Alaska Ranger Bering Sea.</li> <li>• Safety Board, National Transportation, (2015). Marine Accident Summary Engineroom Fire On Board U.S. Small Passenger Vessel Queen of the West Columbia River, near Rufus, Oregon.</li> <li>• Safety Board, National Transportation, (2015). Grounding of the Liberian Passenger Ship Star Princess on Poundstone Rock, Lynn Canal, Alaska</li> </ul> <p><b>Journals:</b></p> <ul style="list-style-type: none"> <li>• IMechE Journal of Engineering for the Maritime Environment (JEME)</li> <li>• IMarEST Journal of Marine Engineering and Technology (JMET)</li> <li>• Journal of Marine Science and Technology</li> <li>• SNAME and RINA journals</li> <li>• International Journal of Marine Science; Richmond</li> <li>• Marine Technology and SNAME News; New York</li> <li>• Marine Technology Society Journal; Washington</li> <li>• Australian Journal of Maritime and Ocean Affairs; Abingdon</li> <li>• International Journal of Maritime History</li> <li>• Aegean Review of the Law of the Sea and Maritime Law. Springer.</li> <li>• Journal of Maritime Law and Commerce; Cincinnati</li> <li>• Maritime Policy and Management; Abingdon</li> <li>• Maritime Studies; Canberra</li> <li>• Naval Engineers Journal. Wiley</li> </ul>
Assessment	<p>Final Exam: 60%</p> <p>Course Work/Assignment: 40%</p>
Language	English