

Course unit title:	TECHNICAL ASPECTS OF SHIPS AND CARGO HANDLING		
Course unit code:	ATCH401		
Type of course unit:	Elective		
Level of course unit:	Bachelor (1 st Cycle)		
Year of study:	4 th		
Semester when the unit is delivered:	7 TH		
Number of ECTS credits allocated :	6		
Name of lecturer:	Mr Aris Constantinou		
Learning outcomes of the course unit:	<p>By the end of the course, students should be able to:</p> <ul style="list-style-type: none"> • General knowledge of the most important ship types and their technical characteristics. • Understanding of the vessels technical requirements and restrictions. • Basic general knowledge of fundamental technical features, such as principal dimensions, trimming conditions, form coefficients, design lines, loading conditions, etc. • General knowledge on the forces exerted on a vessel when underway and basic knowledge of ship motions and seakeeping behavior of vessels in waves • Basic knowledge of the main types of cranes and cargo lifting equipment used on board a vessel. • Ability to demonstrate a good understanding of the advantages and disadvantages of geared vessels. • In depth understanding of how the existence or not of cargo handling gear affects the overall operation of a vessel. • Basic knowledge of ship construction and the various stages during a new building process. 		
Mode of delivery:	Lectures, Videos and class discussions		
Prerequisites:	None	Co-requisites:	none
Recommended optional program components:	None		
Course contents:	<ul style="list-style-type: none"> • Principal dimensions and technical characteristics of a vessel, such as fore and aft perpendicular, freeboard, trimming conditions, Plimsoll Mark, to name a few. • Demonstration of the advantages and disadvantages of geared vessels and how the existence or not of cargo handling gear affects the overall operation of a vessel. • Main types of cranes and cargo lifting equipment used on board a vessel. • Description of the forces exerted on a vessel when underway and how these forces affect the dynamic behavior of a vessel in terms of seakeeping. 		
Recommended and/or required reading:	<ul style="list-style-type: none"> • A. Branch, Elements of Shipping, 7th Edition, Routledge, 2005 		
Textbooks:	<ul style="list-style-type: none"> • Ship Knowledge, A modern Encyclopaedia, by K. van Dokkum • Modern Ship Design, by Gilmmer, Thomas C 		
References:	<ul style="list-style-type: none"> • Introduction to Naval Architecture (4th Edition) by E. Tupper • The shipping revolution: The modern merchant ship, Robert Gardiner, Conway Maritime Press, 1992 • The shipping revolution: The modern merchant ship Robert Gardiner, Conway Maritime Press, 1992 • Lecture Notes 		

Planned learning activities and teaching methods:	Lectures, discussions, presentations, movies. Power point presentations used in class and lecture notes available to the students on the e-learning platform. Vessel visits where feasible.
Assessment methods and criteria:	<ul style="list-style-type: none">• Mid-Term 40%• Final Exam 60%
Language of instruction:	English
Work placement(s):	Not applicable