(B) Course information in english

General course information:

Course title:	Design and Operation of Sea Transport Systems	**Course code:**	ΣΥ1111
Credits:	6	**Work load (hours):**	150

Course level:	Undergraduate	☑	Graduate	☐
Course type:	Mandatory	☐	Selective	☑
Course category:	Basic	☐	Orientation	☑

Semester:	9th	**Hours per week:**	4

Course objectives (capabilities pursued and learning results):

The objective of this course is to provide knowledge on the design, organization and operation of maritime systems. The course includes introduction to the basic principles of strategic and operational port planning, presentation of developments in shipping and maritime transport, and transmission of new methodologies and case studies that are met worldwide. It also introduces the relevant European policy, and deepens in multimodal transportation, i.e. sea-road connectivity.

Upon successful completion of the course, students will:

- have understood the basic principles and specifications of the design, organization and operation of maritime transport systems,
- have acquired knowledge in strategic and operational planning,
- be familiar with the concept of combined transport and multimodal transport chain,
- have acquired the ability to identify, analyze and interpret the necessary national, European and international legal frameworks,
- have acquired knowledge in new technologies and intelligent systems in shipping and maritime transport,
- have acquired the required basic knowledge for further specialization in the course's topics.

Prerequisites:

Design and evaluation of transportation systems

Instructor's data:

Name:	Dr. Ioannis Adamos
Level:	Teaching Staff
Office:	Department of Civil Engineering (Office no. 111) University of Thessaly Pedion Areos, GR-38334 Volos, Greece
Tel. – email:	2421074158, giadamos@uth.gr
Other tutors:	-

Specific course information:

Week No.	Course contents	Hours	
		Course attendance	Preparation
1	Introduction to maritime systems: trends and prospects	4	1
2	European policy on maritime transport	4	1
3	Maritime systems and technical terminology	4	1
4	Cargo and sea transport mode	4	1
5	Port organization characteristics: evolution and emerging trends	4	1
6	Demand and supply for shipping services	4	1
7	Port throughput, performance indicators and fares	4	1
8	Feasibility studies in maritime systems	4	1
9	Organization and management of ports and port facilities	4	1
10	Quality and safety management in maritime transport	4	1
11	Public Private Partnerships and gradual access to the port services market	4	1
12	Combined transport and multimodal transport chain	4	1
13	Short sea shipping and Motorways of Sea	4	1
14	New technologies and intelligent systems in shipping and maritime transport	4	1

Additional hours for:			
Class project	**Examinations**	**Preparation for examinations**	**Educational visit**
55	3	20	2

Suggested literature:
• Alderton, P. (2011) «Reeds Sea Transport: Operation and Economics», 6th Edition. Bloomsbury, ISBN: 9781408131428. • Stopford, M. (2008) «Maritime Economics», 3rd Edition. Taylor & Francis Group, ISBN: 9780429239540. • Grammenos, C. (2010) «The Handbook of Maritime Economics and Business». Taylor & Francis Group, ISBN: 9780203721636.

Teaching method *(select and describe if necessary* - **weight***):*		
Teaching	☑	75%
Seminars	☐	0%
Demonstrations	☐	0%
Laboratory	☐	0%
Exercises	☑	20%
Visits at facilities	☑	5%
Other *(describe):* …….	☐	0%
Total		100%

Evaluation method *(select)* - **weight:**				
	written	*%*	*Oral*	*%*
Homework	☐	0	☐	
Class project	☑	25	☑	5
Interim examination	☑	20	☐	
Final examinations	☑	50	☐	
Other *(describe):* ……	☐	0	☐	