COURSE OUTLINE

(1) GENERAL INFORMATION

FACULTY / SCHOOL	MARITIME AND INDUSTRIAL STUDIES		
DEPARTMENT	MARITIME STUDIES		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	NA81	**SEMESTER**	4th
COURSE TITLE	Quantitative Methods in Shipping and Transport		
INSTRUCTOR'S NAME	Assistant Professor Vangelis Tsioumas		

INDEPENDENT TEACHING ACTIVITIES *in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
	4	6
Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4		

COURSE TYPE *Background knowledge, Scientific expertise, General knowledge, Skills development,*	Scientific expertise
PREREQUISITE COURSES:	
LANGUAGE OF INTRODUCTION:	Greek
LANGUAGE OF EXAMINATION/ASSESSMENT:	
THE COURSE IS OFFERED TO ERASMUS STUDENTS:	
COURSE WEBSITE (URL):	

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail.

It is necessary to consult:

APPENDIX A

- *Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.*
- *Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and*

APPENDIX B

- *Guidelines for writing Learning Outcomes*

Upon successful completion of this course, the students should be able to:

- Identify the parameters required for the quantitative study of the shipping market.
- Understand the main statistical and econometric methods for analyzing data from the shipping market and the broader transportation sector.
- Apply quantitative methods to solve problems related to the maritime transport sector.
- Interpret the results of various quantitative methods and connect them to the theoretical framework.
- Evaluate the impact of external factors on the systems under study.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Adapting to new situations
Decision-making
Individual/Independent work
Group/Team work
Working in an international environment
Working in an interdisciplinary environment
Introduction of innovative research
Project planning and management
Respect for diversity and multiculturalism
Environmental awareness
Social, professional and ethical responsibility and sensitivity to gender issues
Critical thinking
Development of free , creative and inductive thinking
……..
(Other……citizenship, spiritual freedom, social awareness, altruism, etc.)
……..

- Search for, analysis and synthesis of data and information by the use of appropriate technologies,
- Adapting to new situations
- Decision-making
- Individual/Independent work
- Group/Team work
- Working in an international environment
- Critical thinking
- Development of creative and inductive thinking

(3) COURSE CONTENT

- Introduction to quantitative analysis and modeling
- Simple linear regression with applications in shipping data
- Multiple regression with applications in shipping data
- Testing for violations of the Classical Linear Model Assumptions (such as multicollinearity, heteroscedasticity) and empirical applications
- Time series analysis
- Forecasting models in shipping
- Decision analysis
- Other applications of quantitative methods for solving problems in shipping and transportation.

(4) TEACHING METHODS – ASSESSMENT

MODES OF DELIVERY *Face-to-face, in-class lecturing, distance teaching and distance learning, etc.*	Face-to-face, in-class lecturing	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of ICT in teaching, Laboratory Education, Communication with Students*	• E-class • Eviews, SPSS, PowerPoint, Excel, Word	
COURSE DESIGN *Description of teaching techniques, practices and*	***Activity/Method***	***Semester workload***

methods: *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity etc.* *The study hours for each learning activity as well*	Lectures	52
	Non-guided study	98
	Total	**150**

as the hours of self-study are given following the principles of ECTS.		
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS *Detailed description of the evaluation procedures:* *Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other….,etc.* *Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students*	• Final exam • Group project	

(5) SUGGESTED BIBLIOGRAPHY

RECOMMENDED READING

- Lecture Notes
- Studenmund A., Οικονομετρία: Πρακτικός Οδηγός Χρήσης. Broken Hill Publishers Ltd
- Φιλιππάκης Μ., Στατιστικές μέθοδοι & ανάλυση παλινδρόμησης για τις νέες τεχνολογίες, Εκδόσεις ΤΣΟΤΡΑΣ
- Taylor B., Εισαγωγή στη Διοικητική Επιστήμη, Broken Hill Publishers Ltd

RELEVANT JOURNALS

- Journal of Econometrics
- Journal of Mathematical Economics
- Transportation Research Parts A-E
- Maritime Economics and Logistics