

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF BUSINESS		
ACADEMIC UNIT	DEPARTMENT OF SHIPPING, TRADE AND TRANSPORT		
LEVEL OF STUDIES	POSTGRADUATE (MSc) “MBA in Shipping”		
COURSE CODE	12051-05	SEMESTER	1st Semester (winter)
COURSE TITLE	QUANTITATIVE METHODS IN SHIPPING AND TRANSPORTATION		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
	Lectures	3	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	COMPULSORY		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://www.stt.aegean.gr/mba-in-shipping/programma-mathimaton/		

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The scope of this seminar is to enable the students to understand the information needs of shipping/transport management, and develop the analytical skills to conduct quantitative research to assist their decision making. The course introduces the statistical tools of data collection and analysis. Various types of quantitative methods, such as regression, discrete choice modeling, and operation

research and simulation modeling techniques are studied in-depth. The lectures are based on real-world examples coming from the shipping and transport industry.

At the end of the course learners should be able to:

- Understand and analyze the key features of quantitative methods.
- To prepare literature review on a subject given to them, and conduct critical analysis.
- To conduct exploratory data analysis
- To develop econometric models (using various software and tools).
- Analyze and present results and findings.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

The course is designed to:

- Provide knowledge of terminology, key features and concepts of quantitative methods
- To provide the basis for conducting research in shipping and transport.
- To provide skills for collecting and analyzing data, estimating econometric models applied to the shipping sector
- To provide knowledge to contribute to the analytic and synthetic ability of the students

(3) SYLLABUS

This course analyses the fundamental elements of quantitative methods. The course is composed of 7 lectures. The seminar includes an individual exercise and a group research case study. A written report is expected to be delivered at the end of class (2,500 words).

A full overview of the courses:

A/A	Study Subject
1.	Research in shipping and transport. Introduction to quantitative methods.
2.	Sources of data, primary data, secondary data. Descriptive statistics and analysis of findings.
3.	Regression Modeling.
4.	Brief student presentations on statistical analysis. Discussion of projects. Literature review and Report writing.
5.	Innovative data collection methodologies (revealed and stated preference data). Revealed and stated preferences data. Serious Games. Sampling.
6.	Discrete choice analysis.
7.	Operation research / simulation methods.
8.	Group presentations.

Proposed group research project topics

1. Mode choice between Air and Ship
2. Island connectivity and yacht pooling
3. Seafarers’ fatigue and well-being (relationship with accidents/productivity)
4. Job satisfaction of women employees in shipping companies
5. Dwell time of containers in container terminals
6. Last-mile delivery with autonomous pods/vans
7. Etc.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face and distance synchronous transmission of lectures																						
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	<ul style="list-style-type: none"> • Lectures using computer presentations and video, • Support of learning and communication with the students using the e-learning platforms e-class and Big Blue Button • Lectures with presentations • Moodle Aegean platform supportive use for the course teaching activities 																						
TEACHING METHODS <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activity</i></th> <th style="text-align: center;"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">18</td> </tr> <tr> <td>Study and analysis of bibliography</td> <td style="text-align: center;">68</td> </tr> <tr> <td>Analysis of case-studies</td> <td style="text-align: center;">34</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Course total</td> <td style="text-align: center;">120</td> </tr> </tbody> </table>	<i>Activity</i>	<i>Semester workload</i>	Lectures	18	Study and analysis of bibliography	68	Analysis of case-studies	34													Course total	120
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STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i>	Language of the evaluation: English The course includes a group research project. The overall scoring procedure of the course is as follows:																						

<p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p><i>i <u>Presentation of data analysis of a topic of interest - individual (Weight in scoring 20%)</u></i></p> <p><i>ii <u>Group research project report (Weight in scoring 40%)</u></i></p> <p><i>iii <u>Presentation and Oral examination (Weight in scoring 40%)</u></i></p>
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(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

A) Course textbooks:

[Mark Saunders](#), [Philip Lewis](#), [Adrian Thornhill](#) (2014). *Μέθοδοι Έρευνας*. Εκδότης: Δίσιγμα. (2014). ISBN: 9789609495394

B) Supporting bibliography

During the course the student will be provided with scientific papers. In addition, through the Moodle Aegean platform, student have access in all the presentations of the course, in which the lectures are based on.