
Module Title: Data, Models and Decisions

- **Type of Module:**

ΓΕ0020	PC (Prescribed Core Module)
--------	-----------------------------

- **Level of Module**

Postgraduate

- **Year of Study**

MASTER'S

- **Semester**

1st

- **Number of credits allocated**

5

- **Name of lecturer / lecturers : Amalia Polydoropoulou - Nikolaos Litinas**

- **Description:**

Management decisions in the field of Shipping, Transport and International Trade is based increasingly on analysis which uses quantitative models and techniques. These tools, techniques and conceptions have brought about radical changes in the way businesses and organizations operate in various sectors , such as manufacturing, services , marketing and finance. The course aims to introduce students to the technical sector management that are relevant to decision making in business. Specifically, we will focus on different ways of structuring and modeling business problems and making decisions. In order to give a broad view of how it is used in practice management, much of the material to be used will be presented in actual conditions and varied forms, with specific examples in Shipping, Transport and International Trade.

- **Prerequisites:**

N/A

- **Module Contents (Syllabus):**

In this course the emphasis given on modern data collection methodologies for modeling and decision making and policy making under uncertainty, we study the process and stages of sampling, and develop mathematical simulation models (using different software packages).

Below is a detailed outline

A/A	ΘΕΜΑ ΜΕΛΕΤΗΣ
1.	• Introduction
2.	• Decision making analysis
3.	• Model construction under uncertainty I
4.	• Model construction under uncertainty II

5.	<ul style="list-style-type: none">• Statistical sampling• SPSS use for data analysis II
6.	<ul style="list-style-type: none">• Regression models I• SPSS use for data analysis II
7.	<ul style="list-style-type: none">• Regression models II• SPSS use for running regression models
9.	<ul style="list-style-type: none">• Discrete Choice Models I
10.	<ul style="list-style-type: none">• Discrete Choice Models II• Biogeme use for running Discrete Choice Models
11.	<ul style="list-style-type: none">• Linear Programming
12.	<ul style="list-style-type: none">• Decision making during the economic crisis

Language of instruction/Γλώσσα διδασκαλίας

Greek

Name and contact info of lecturer /Στοιχεία διδάσκοντα /

Name: Amalia Polydoropoulou, Professor
Nikolaos Litinas, Emeritus Professor
Office location: Korais Building
Tel: 2271035201, 2271035260
Email: polydor@aegean.gr
n.litinas@aegean.gr

Expected learning outcomes/Μαθησιακοί στόχοι

- Provide the basics for the research and critical analysis of issues concerning decision making
- Να παρέχει δεξιότητες που αφορούν την ανάπτυξη και το σχολιασμό οικονομετρικών προτύπων, καθώς και τη συλλογή δεδομένων για την ανάπτυξη των προτύπων αυτών.
- Provide skills concerning development and discussion of econometric models, as well as data collection for these models.
- Provide knowledge that develops analytic and synthetic skills of the students

ΕΚΠΑΙΔΕΥΤΙΚΑ ΑΠΟΤΕΛΕΣΜΑΤΑ

After successful completion and class participation it is expected that will be able to:

- Understand the decision making process
 - Prepare a literature review relevant to the subject and perform a critical analysis on it.
 - Understand sampling procedure and stages
 - Develop mathematical simulation models (with the use of various software packages)
-

- Be in position to run regression and discrete choice models

Mode of delivery and teaching methods/Είδος μαθήματος και διδακτική μέθοδος

1. Lectures supported by video projector presentations
2. Use of eclass platform for the support of teaching activities
3. Visits to Transportation and Decision Making Laboratory for the use of equipment and software relevant to the lectures
4. The course is based on class participation and workshops. Due to the wide range of topics teaching presence is necessary for a full understanding of the curriculum and solving tasks.

Compulsory & recommended reading /Υποχρεωτική & Συνιστώμενη βιβλιογραφία :

A) Basic course textbook:

- Data, Models, and Decisions: The Fundamentals of Management Science. • **Dimitris Bertsimas. Robert M. Freund. • South-Western College Publishing.**

B) Further reading:

1. Marketing Research. Methodological Foundations. G.A. Churchill and D. Iacobucci, 8th Edition, Southwestern, 2002
2. Discrete Choice Analysis. M. Ben-Akiva and S. Lerman. MIT Press, 1985.
3. Ανάλυση Ζήτησης σε Περιβάλλον Ανταγωνισμού Ακτοπλοΐας και Αεροπλοΐας. Αμαλία Πολυδωροπούλου. Τμήμα Ναυτιλίας και Επιχειρηματικών Υπηρεσιών, Χίος, 2005.

Assessment methods & criteria /Μέθοδος & κριτήρια αξιολόγησης:

The course includes two (2) compulsory assignments, one (1) midterm and one (1) final exam . The grade for the course will be based on midterm and final exam, critical analysis and discussion of home exercise, your participation in class and in both tasks an individual and a group. In individual work the student will fill in questionnaires for 5 households (all members).

The overall rating of the course will be as follows:

i. Task1: A (20% Weighting)

The purpose of the first task is to gain experience in completing questionnaires for developing research. The work is individual.

ii Task2: B (Weighting 40 %)

The purpose of this paper is to problems analysis and exploration of growth prospects and decision making in various fields of Shipping, Transport , Commerce or general business operation . You will be given a ready database of past research which should analyze. The results of this work will be presented at the end of the course. This project is done in teams

iii Midterm Examination (Weighting 20%)

The test is done with books closed, only two pages of notes is allowed

iv Final Exam - Presentation (Weighting 20%)
