UNIVERSITY of NICOSIA

Course Code	Course Title	ECTS Credits
MBA-709	Management Science	7.5
Department	**Semester**	**Prerequisites**
MBA	Fall, Spring, Summer	MBA-609
Type of Course	**Field**	**Language of Instruction**
Concentration	Management	English
Level of Course	**Year of Study**	**Lecturer(s)**
2nd Cycle	2nd	Mr. Harry Kogetsidis
Mode of Delivery	**Work Placement**	**Co-requisites**
face-to-face	N/A	None

Recommended Optional Programme Components: N/A

Objectives of the Course:

The main objectives of the course are to:

- Introduce students to the basic principles of management science / operational research and to familiarise them with a number of its concepts and tools.
- Develop students' ability to build numerical models and to use these models to help propose policy alternatives.
- Develop students' analytical skills.
- Develop students' ability to summarise and present data in a professional way.
- Develop students' skills in practical decision making.
- Provide a conceptual understanding of the role of the methods of science in decision making.
- Develop students' ability to communicate effectively with non-technical managers.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Discuss the importance of analytical modeling in problem solving and decision making.
2. Structure business problems so that these can be solved by quantitative means.
3. Select appropriate management science methods to address particular types of business problems.
4. Apply appropriate management science tools to solve a wide range of business problems.
5. Develop analytical models to help propose policy alternatives.
6. Develop skills in analytical and practical decision making.
7. Develop a conceptual understanding of the methods of science in decision making.
8. Summarise and present data in a professional way.

9. Communicate effectively with non-technical managers.

Course Contents:

1. Introduction to Decision Analysis.
2. Decision Analysis Problems under Conditions of Risk.
3. The Bayesian Approach to Decision Analysis.
4. Introduction to Time Series Forecasting – Basic Tim e Series Components.
5. Averaging Forecasting Methods.
6. Exponential Smoothing Forecasting Methods.
7. Measuring Forecast Accuracy.
8. Introduction to Project Scheduling.
9. Critical Path Analysis using PERT/CPM Networks.
10. Time/Cost Trade-Offs in Project Scheduling.
11. Introduction to Linear Programming.
12. Linear Programming Problem Formulation.
13. Solving Linear Programming Problems using the Graphical Method.
14. Special Applications of Linear Programming.

Learning Activities and Teaching Methods:

Lectures, seminar activities, computer workshop activities, case studies.

Assessment Methods:

Homework activities, assignments, project, final examination.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
David Anderson, Dennis Sweeney and Thomas Williams	Quantitative Methods for Business (9^{tn} ed.)	Thomson South-Western	2004	0324184131

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Frederick Hillier and Gerald Lieberman	Introduction to Operations Research (9^{th} ed.)	McGraw-Hill	2010	0073376299
Hamdy Taha	Operations Research: An Introduction (8^{tn} ed.)	Prentice Hall	2006	0131889230