SUBJECT TEACHING GUIDE

G342 - Mathematics for Economists

Double Degree in Law and Administration and Business Management
Degree in Business Administration and Management

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Double Degree in Law and Administration and Business Management			Type and Year	Core. Year 1 Core. Year 1
Faculty	Faculty of Economics and Business Studies				
Discipline	Subject Area: Mathematics Basic Training Module				
Course unit title and code	G342 - Mathematics for Economists				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. ECONOMIA
Name of lecturer	FAUSTINO PRIETO MENDOZA
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Other lecturers	JOSE MARIA SARABIA ALEGRIA PEDRO PABLO COTO MILLAN MANUEL AGUEROS SANCHEZ XOSE LUIS FERNANDEZ LOPEZ OSCAR LUIS ALONSO CIENFUEGOS

3.1 LEARNING OUTCOMES
- Ability to identify and analyze the multivariable nature of many of problems from the economic and business world.
- Ability to solve problems of mathematical optimization from the economic and trade environment situation, in the area of planning and distribution of scarce resources.
- Understanding of fundamental concepts of Mathematics of Financial Operations.

4. OBJECTIVES

Conceptual objectives:
To understand and know the main concepts and mathematical techniques in differential calculus of several variables , in mathematical programming, and mathematics of financial operations.
To enhance the knowledge previously acquired in the subject of General Mathematics .

Procedural objectives:
To use fluently functions of more than one variable, with particular emphasis on applications from economic and business field.
To use suitable mathematical and computing tools for solving problems of optimal allocation of scarce resources and alternative uses.
To understand business theory expressed in mathematical language .

Attitudinal goals:
To advance in the attainment of personal autonomy .
To develop the capacity for teamwork .

6. COURSE ORGANIZATION

CONTENTS	
1	Differential calculus of several variables 1.- Scalar valued and vector valued functions: limits and continuity. 2.- Scalar valued and vector valued functions: partial derivatives and differentiability . 3.- Applications: utility function, production function and cost function.
2	Classical optimization and constrained optimization. 4.- Introduction to the theory of optimization. 5.- Unconstrained optimization 6.- Constrained optimization
3	Linear programming 7.- Introduction to linear programming 8.- The simplex method 9.- Duality in linear programming
4	Simple and compound interest. Present and future values. 10.- Introduction to financial mathematics

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Resolution of exercises and problems (I)	Written exam	No	Yes	40,00
Resolution of exercises by using specific software	Laboratory evaluation	No	Yes	20,00
Resolution of exercises and problems (II)	Written exam	No	Yes	40,00
TOTAL				100,00

Observations

Regular students, who fail the course on the ordinary examination (continuous assessment), will go through an extraordinary call, for the 100% grade, including all course contents. In both calls (ordinary and extraordinary), the score obtained by the student will be the weighted average of the grades obtained in three exams: two written exams and one laboratory evaluation, according to the weights established for continuous assessment.

Observations for part-time students

Part-time students must carry out the same assessment tasks as the other students, but they will have the opportunity to take all the exams (two written exams and one laboratory evaluation) on the final day exam.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Sydsaeter, K., Hammond, P. (2006). "Matemáticas para el Análisis Económico". Prentice Hall, Madrid.
Caballero Fernández, R.E., González Pareja, A.C., Calderón Montero, S. (2000). "Matemáticas Aplicadas a la Economía y a la Empresa: 434 Ejercicios Resueltos y Comentados". Pirámide, Madrid.
Matías, R., Seijas Macias, J.A. (2009). "Matematica Financiera. Manual Básico". Escolar Editora.