

## SUBJECT TEACHING GUIDE

### G341 - General Mathematics

Double Degree in Business Administration and Management and Labour Relations  
 Double Degree in Law and Administration and Business Management  
 Degree in Business Administration and Management  
 Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Double Degree in Business Administration and Management and Labour Relations			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	G341 - General Mathematics				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICA APLICADA Y CIENCIAS DE LA COMPUTACION				
Name of lecturer	MARIA PATRICIA GOMEZ GARCIA				
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Other lecturers	JOSE MANUEL LOPEZ CAMUS NEILA EMMA CAMPOS GONZALEZ BEATRIZ GARCIA GARCIA JAVIER DIEZ SIERRA				

### 3.1 LEARNING OUTCOMES

- To solve mathematical and economical problems applying Analysis and Lineal Algebra techniques.

### 4. OBJECTIVES

To know how to use mathematical knowledge to solve economic problems.  
 To apply mathematical software to the resolution of mathematical problems.

6. COURSE ORGANIZATION	
CONTENTS	
1	Lineal Algebra: Matrices. Linear systems.
2	Lineal Algebra: Vector spaces. Matrix diagonalization.
3	Real numbers: intervals, absolute value.
4	Real-valued functions of a real variable: Limit. Continuity
5	Differential calculus.
6	Real number sequences and series.
7	Integration: Riemann integral. Antiderivative.

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Maxima test.	Laboratory evaluation	No	No	5,00
Partial exam (Lineal Algebra)	Written exam	No	Yes	30,00
To solve mathematical problems using Maxima.	Laboratory evaluation	No	No	5,00
Partial exam (Real numbers. Real-valued functions of a real variable: Limit. Continuity)	Written exam	No	Yes	30,00
Partial exam (Differential calculus. Real number sequences and series. Integration: Riemann integral. Antiderivative.)	Written exam	No	Yes	30,00
TOTAL				100,00
Observations				
Observations for part-time students				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

1. Barbolla, R. y Sanz, P. (1998). Álgebra lineal y teoría de matrices. Ed. Prentice Hall.
2. Bradley, G. L. y Smith, K. J. (1998). Cálculo de una variable, I. Ed. Prentice Hall.
3. Bradley, G. L. y Smith, K. J. (1998). Cálculo de varias variables, II. Ed. Prentice Hall.
4. Caballero, R. E., Calderón, S. y Galache, T. P. (2000). Matemáticas aplicadas a la economía y a la empresa. 434 ejercicios resueltos y comentados. Ed. Pirámide
5. Granero Rodríguez, F. (1991). Ejercicios y problemas de cálculo. Ed. Tebar-Flores.
6. Grossman, S. I. (1997). Álgebra lineal. Ed. McGraw-Hill.
7. Hernández, E. (1999). Álgebra y geometría. Ed. Addison-Wesley/U.A.M.
8. Hoffmann, L. D. y Bradley, G. L. (1998). Cálculo para administración, economía y ciencias sociales. Ed. McGraw-Hill.
9. Kolman, B. (1999). Álgebra lineal con aplicaciones y Matlab. Ed. Prentice Hall.
10. Kolman, B. y Hill, D. R. (2006). Álgebra lineal. Ed. Pearson Educación de México.
11. Martínez Salas, J. (1992). Elementos de matemáticas. Ed. Lex Nova.
12. San Millán, M. A. y Viejo, F. (1992). Introducción a la Economía Matemática. Ed. Pirámide.
13. Sanz, P., Vázquez, F. J. y Ortega, P. (1998). Álgebra lineal. Cuestiones, ejercicios y tratamiento en Derive(R). Ed. Prentice Hall.
14. Sanz, P. y Vázquez, F. J. (2013). Álgebra lineal. 450 cuestiones y problemas resueltos. Ibergaceta, D. L.
15. Sydsaeter, K., Hammond, P. y Carvajal, A. (2012). Matemáticas para el análisis económico, 2ª ed. Ed. Pearson Educación.