

**GRADO EN FINANZAS Y CONTABILIDAD  
DEPARTAMENTO DE ECONOMIA APLICADA I  
UNIVERSIDAD DE SEVILLA**

**Curso 2017/18**

**FINANCIAL MATHEMATICS SYLLABUS**

CHAPTER 1: INTRODUCTION TO FINANCIAL MATHEMATICS.

- 1.1 The financial phenomenon.
- 1.2 Classic financial systems of simple interest and discount.
- 1.3 Classic financial systems of compound interest and discount.

CHAPTER 2: ANNUITIES.

- 2.1 Definition and classification. Present and final value.
- 2.2 Annuities with equal payments.
- 2.3 Annuities with variable payments.
- 2.4 Annuities with more general payments.

CHAPTER 3: AMORTIZATION OF LOANS.

- 3.1 Definitions.
- 3.2 Classic systems of amortization.
- 3.3 Market valuation of loans.
- 3.4 Introduction to public loans.

Course Coordinator: María Ángeles Domínguez Serrano

**Evaluation method**

**Evaluation by chapters:**

Each chapter could be marked by the teacher of the chapter using different methods. The final mark will be the mean of the chapter marks. *To obtain this final mark it is necessary for the student to obtain a mark equal to or greater than 3 points in each chapter and a minimum class attendance of 80 % in each chapter.* The subject will be passed if the final mark is equal to or greater than 5 points.

In other case the student will have to pass the final written exam with the whole contents.

**Final written exam:** This exam will consist of several exercises on the contents of the subject. The subject will be passed if the mark is equal to or greater than 5.

Basic bibliography:

Jun Shao  
Mathematics for Management and Finance

Kellison, S.G.

The Theory of interest. Irwin McGraw-Hill (1991).

McCutcheon-Scott

An introduction to the Mathematics of Finance. Heinemann (1986).

Peter Zima-Robert I. Brawn

Mathematics of Finance. Schaum's Outlines. McGraw-Hill (1996)

Ruiz Amestoy

Matemáticas Financieras. Centro de Formación del Banco de España (1.988)

Villalón-Barbeito

Diccionario técnico Económico-Financiero-Actuarial. Netbiblo (2003).

### Complementary bibliography:

Alegre-Escolano y otros.

Ejercicios Resueltos de Matemáticas de las Operaciones Financieras. Editorial A.C. (2002)

Bonillas M., Ivars A., Moya I. :

Matemática de las Operaciones Financieras. Teoría y Práctica. Thomson Paraninfo (2005)

De Pablo López, A.

Manual Práctico de Matemática Comercial y Financiera. Centro de Estudios Ramón Areces, S.A. (1994)

Delgado, C.-Palomero, J.

Matemáticas financieras: Teoría y 950 ejercicios. El autor (1.984).

Gil Peláez, L.

Matemática de las Operaciones Financieras. Problemas Resueltos. Editorial A.C. (1.989)

González Catalá, V.

Análisis de las Operaciones Financieras Bancarias y Bursátiles. Ediciones de las Ciencias Sociales (1.992)

Levenfeld, G.

Matemática de las Operaciones Financieras y de la Inversión. Editorial Mc-Graw Hill (1997)

Ruiz Amestoy

Matemáticas Financieras: Ejercicios Resueltos. Centro de Formación del Banco de España (1.988)

Terceño, A. y otros

Matemática Financiera. Editorial Pirámide (1997)

Villazón-Sanou.

Matemáticas Financieras. Ediciones Foro Científico (1.993)

### Web Sites:

[http://en.wikipedia.org/wiki/Interest#Mathematics\\_of\\_interest](http://en.wikipedia.org/wiki/Interest#Mathematics_of_interest)

<http://www.aulafacil.com/CursoMatematicasFinancieras/Finanza1.htm#>

<http://www.matematicas-financieras.com/>

<http://www.teachmefinance.com/>