# COURSE DATA

| Data Subject | |
|---|---|
| **Code** | 42203 |
| **Name** | Numerical calculus in finances |
| **Cycle** | Master's degree |
| **ECTS Credits** | 6.0 |
| **Academic year** | 2022 - 2023 |

**Study (s)**

| Degree | Center | Acad. year | Period |
|---|---|---|---|
| 2081 - M.U. Banca y Finanzas Cuantitativas (2007) | Faculty of Economics | 1 | Annual |

**Subject-matter**

| Degree | Subject-matter | Character |
|---|---|---|
| 2081 - M.U. Banca y Finanzas Cuantitativas (2007) | 1 - Compulsory subjects | Obligatory |

**Coordination**

| Name | Department |
|---|---|
| BENITEZ SUAREZ, RAFAEL | 257 - Business Mathematics |

# SUMMARY

**English version is not available**

El objetivo de esta materia es la adquisición de los conocimientos, habilidades y destrezas necesarios para resolver problemas numéricos en finanzas mediante un ordenador.

# PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

Relación con otras asignaturas de la misma titulación:
Los estudiantes deberían haber cursado las asignaturas de Matemáticas y Estadística, Procesos Estocásticos. Los conocimientos adquiridos y las herramientas desarrolladas son útiles para otras asignaturas obligatorias de la titulación, como Derivados, Valoración de Activos, y Gestión de Riesgos.

Otros tipos de requisitos:
No se han especificado restricciones de matrícula con otras asignaturas del plan de estudios.

## OUTCOMES

## LEARNING OUTCOMES

## English version is not available

## WORKLOAD

| ACTIVITY | Hours | % To be attended |
|---|---|---|
| Theory classes | 60,00 | 100 |
| **TOTAL** | **60,00** | |

## TEACHING METHODOLOGY

## English version is not available

## EVALUATION

## English version is not available

## REFERENCES

## Basic

- M. T. Heath (2001) Scientific Computing: An Introductory Survey, 2nd. ed. McGraw-Hill.
  P. Glasserman (2003): Monte Carlo Methods in FinancialEngineering Springer-Verlag.
  P. Wilmott, S. Howison, and J. Dewinne (1996) The mathematics of Financial Derivatives Cambridge University Press.

## Additional

- C.-E. Fröberg (1985) Numerical Mathematics. Theory and Computer Applications. Addison-Wesley.
  W.H. Press, S. A. Teukolsky, W. T. Vettering and B. P. Flannery, (1992) Numerical Recipes in C: The art of Scientific Computing
  Paul Wilmott (1999) Derivatives: The theory and Practice of Financial Engineering John Wiley and Sons NY
  J. Michael Steele Stochastic Calculus and Financial Applications, Springer Verlag; (2000)

  P. J. Brockwell and R. A. Davies (1996) Introduction to Time Series and Forecasting Springer-Verlag.
  P. J. Brockwell and R. A. Davies (1991) Time Series: Theory and Methods
  J. D. Hamilton (1994) Time series analysis Princeton University Press, Princeton.
  J.C. Hull (2000) Options, Futures and other derivatives Prentice Hall.
  G.D. Smith (1985) Numerical solution of partial differential equations: Finite difference methods, Clarendon Press, Oxford.