

## Professional Software in Finance

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**ECTS:** 6 ECTS

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**COORDINATOR:** Carlos Vázquez Cendón [carlosv@udc.es]

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**UNIVERSITY WHERE THE COORDINATOR IS:** UDC

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**HAVE YOU GIVEN PERMISSION TO RECORD YOUR CLASSES?** Yes

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**LECTURER 1:** Mercedes Fernández Veiga [mercedes.fernandez.veiga@santanderam.com]

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**UNIVERSITY WHERE THE LECTURER 1 IS:** UDC

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**HAVE YOU GIVEN PERMISSION TO RECORD YOUR CLASSES?** Yes

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**LECTURER 2:** María Rodríguez Nogueiras [mrnogueiras@gmail.com]

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**UNIVERSITY WHERE THE LECTURER 2 IS:** UDC

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**HAVE YOU GIVEN PERMISSION TO RECORD YOUR CLASSES?** Yes

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### SUBJECT CONTENTS

1. An overview of software toolboxes in finance
  2. Introduction to Excel for finance
  3. Specific Matlab Toolboxes for finance
  4. Interaction Excel – VBA – Matlab: Excel Link
  5. Software development for financial applications with Excel and Matlab
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6. Excel implementation of market and counterparty risks calculus for financial instruments portfolios

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## **METHODOLOGY**

Easy financial case studies presentations to be developed by student by using computer software under teacher supervision will be delivered during the course. Course sessions are mainly practical and the teacher will propose exercises to be sequentially solved. Practical applications of contents previously explained in Mathematical Models in Finance will be addressed.

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**LANGUAGE USED IN CLASS:** Spanish

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**IS IT COMPULSORY TO ATTEND CLASS?** In the university where the teacher is.

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## **BIBLIOGRAPHY**

Financial Toolbox User's Guide, The Math Works Inc., 2005.

Financial Derivatives Toolbox User's Guide, The Math Works Inc., 2005.

Also references in the bibliography of Mathematical Models in Finance may be used.

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## **SKILLS**

### Basic:

CG1: To have knowledge that provide a basis or opportunity for originality in developing and / or applying ideas, often within a research context, knowing how to translate industrial needs in terms of R & D in the field of mathematics Industrial.

CG4: To have the ability to communicate the findings to specialist and non-specialist audiences in a clear and unambiguous way.

### Specific:

CE4: To be able to select a set of numerical techniques, languages and tools, appropriate to solve a mathematical model.

CE5: To be able to validate and interpret the results, comparing them with visualizations, experimental measurements and functional requirements of the physical engineering system.

### Numerical specialization:

CS1: To know, be able to select or use how to handle most suitable professional software tools (both commercial and free) for the simulation of processes in the industrial and business sector.

CS2: To adapt, modify and implement software tools for numerical simulation.

WILL YOU BE USING A VIRTUAL PLATFORM? No.

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WILL YOU BE USING ANY SPECIFIC SOFTWARE? Excell and MATLAB

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#### CRITERIA FOR THE 1ST ASSESSMENT OPPORTUNITY

Qualifications will be obtained from the exercises and proposed practices.

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#### CRITERIA FOR THE 2ND ASSESSMENT OPPORTUNITY

The same as in the 1<sup>st</sup> assessment opportunity.

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