

Financial Mathematics with Applications in MATLAB and PYTHON (61224)

Instructors: A.YANNACOPOULOS

Elective Course, 3rd or 4th semester, 5 ECTS units

Course level: Graduate (MSc)

Language: Greek

Course Description

Introduction to fundamental concepts of financial mathematics and presentation of quantitative theoretical and computational tools for financial market analytics. Decision theory under uncertainty, introduction to the structure of financial markets and the nature of financial assets, asset pricing models, derivative products, bonds, portfolio theory and introduction to risk management techniques. Computational methods and techniques for the above using Python and Matlab (Octave) environments.

Prerequisites

None.

Target Learning Outcomes

To familiarize students with quantitative and computational techniques for financial market analytics as well as with the Python and Matlab (Octave) environment.

Recommended Bibliography

- Hull, J. C. (2015) Options, Futures, and Other Derivatives, 9th edition, Pearson
- McDonald, R. L. (2013), Derivatives Markets, 9th edition, Prentice Hall
- Shreve, S. (2005), Stochastic calculus for finance Vols. I and II, Springer
- Γιαννακόπουλος Α. (2014) Στοχαστικά Χρηματοοικονομικά (σημειώσεις)

Teaching and Learning Activities

In vivo or by distance teaching, computational applications.

Assessment and Grading Methods

Essays and mini projects within the term.