STOCHASTIC PROCESSES AND DERIVATIVE MARKETS (m63106p)

Instructors: A. YANNACOPOULOS – A. TSEKREKOS

Core Course, 2nd semester, 5 ECTS units
Course level: Graduate (MSc)
Language: Greek

Course Description

The course covers the basic derivative securities, derivative markets and their functions, the pricing of derivative securities via stochastic processes and the risk management of financial positions via derivatives. Computational techniques of pricing derivatives are also covered. More specifically, the following topics are covered:

- Futures contracts and hedging
- Forward contracts and pricing
- Swaps
- Options contracts: Characteristics and trading strategies
- Pricing options contracts

Prerequisites

There are no compulsory prerequisite courses required.

Target Learning Outcomes

The students will come out of the course with a broad knowledge of derivative markets, with a special focus on pricing methods via stochastic processes and computational methods. Specifically, the course aims to help the student:

- develop a basic understanding of derivative markets and their basic functions, and
- understand and apply computational techniques, based on stochastic processes, to price derivative securities.

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

Distance learning methods through e-class and Microsoft teams during the COVID19 pandemic. In the class otherwise.

Assessment and Grading Methods

Assessment via a compulsory assignment during the COVID19 pandemic. Assessment via a compulsory assignment (30%) and written examination (75%) normally.