

**Module Title: FINANCIAL DERIVATIVES INSTRUMENTS**

• **Type of Module:**

ΓΕ0033	Prescribed Stream Module
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• **Level of Module**

*Postgraduate*

• **Year of Study**

MASTER'S
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• **Semester**

Spring Semester 2 <sup>nd</sup> period
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• **Number of credits allocated**

3
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• **Name of lecturer / lecturers : Theodore Syriopoulos**

• **Description:**

The course provides a thorough understanding of important financial derivatives products as modern instruments of financial risk management and investment decisions. Their key properties and functions are discussed with an emphasis on: fundamental characteristics and importance of global financial derivatives markets, properties and functions of futures, options and swaps, basic investment positions on derivatives, sensitivity factors, pricing methods and valuation models, simple and complex risk management strategies with derivatives.

• **Prerequisites:**

- Advanced Finance and Financial Risk Management
- Statistics
- Econometrics – Quantitative Methods

• **Module Contents (Syllabus):**

- Organization, Characteristics and Importance of Derivatives Markets
- Analysis of Fundamental Concepts & Functions: (i) Futures Contracts – (ii) Options Contracts
- Basic Investment Positions in Derivatives
- Methods of Derivatives Applications
- Sensitivity Factors in Derivatives – The ‘Greeks’
- Derivatives Pricing Models
- Core Strategies in Derivatives (hedging, trading, arbitrage)

**Language of instruction / Γλώσσα διδασκαλίας**

Greek with specialized terminology in English.

**Name and contact info of lecturer / Στοιχεία διδάσκοντα**

Name: Theodore Syriopoulos

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Position: Associate Professor  
Tel: +30 22710 35861  
Email: [tsiriop@aegean.gr](mailto:tsiriop@aegean.gr)

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### **Expected learning outcomes / Μαθησιακοί στόχοι**

The core learning objectives focus on providing a logical and consistent structure that integrates different theoretical and empirical aspects of financial derivatives products. The course encourages students to think critically on the incorporation of financial derivatives as modern instruments of risk management and supports the empirical application of financial derivatives on important basic and complex risk management strategies.

### **Mode of delivery and teaching methods / Είδος μαθήματος και διδακτική μέθοδος**

The teaching methods include analyzing course material in teaching lectures, development of quantitative problems and model solutions and practical topics of case study analysis on a wide list of predominantly empirical issues, related to the analysis and assessment of important financial derivatives instruments and their theoretical and empirical application to risk management decisions, with an emphasis on practical and quantitative topics on these instruments and selective case problems.

### **Compulsory & recommended reading / Υποχρεωτική & Συνιστώμενη βιβλιογραφία**

#### **A) Principal Reference:**

- **J. Hull** (2013): ‘Options, Futures and Other Derivative Securities’ (8<sup>th</sup> ed.), Prentice Hall.
- **J. Hull** (2010): ‘Fundamentals of Futures and Options Markets’, Prentice Hall.
- **K. Redhead** (2003): ‘Financial Derivatives: An Introduction to Futures, Forwards, Options and Swaps’, Prentice Hall.

#### **B) Additional References (in Greek):**

- **J. Bernstein** (1989): ‘How the Futures Markets Work’, New York Institute of Finance.
  - **K. Connolly** (1997): ‘Buying and Selling Volatility’, J. Wiley.
  - **J. Cox & M. Rubinstein** (1985): ‘Options Markets’, Prentice Hall.
  - **D. Dubofsky** (2004): ‘Options and Financial Futures –Valuation and Uses’, McGraw Hill.
  - **L. Galitz** (1995): ‘Financial engineering: tools and techniques to manage financial risk’, Irwin Public.
  - **L. McMillan** (1993): ‘Options as a Strategic Investment’, New York Institute of Finance.
  - **B. Millard** (1997): ‘Traded Options’, J. Wiley.
  - **S. Natenberg** (1994): ‘Option Volatility & Trading’, Irwin.
  - **J. Walker** (1991): ‘How the Options Markets Work’, New York Institute of Finance.
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- **T. Watsham** (1998): ‘Futures and Options in Risk Management’, Thomson Business Press.
- **Σ. Θωμαδάκης & Μ. Ξανθάκης** (2006): ‘Αγορές Χρήματος και Κεφαλαίου’, Εκδόσεις Σάκκουλα.

**Assessment methods & criteria / Μέθοδος & κριτήρια αξιολόγησης**

The final course evaluation is based on the weighted outcome of written exams (70%) και the submission of an applied homework assignment as well as on the overall student participation and initiatives (30%).

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