

## Market Finance

Course title - Intitulé du cours	Market Finance
Level / Semester - Niveau /semestre	M1 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	MOINAS SOPHIE
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

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T.630

The best way to discuss any questions you may have, is after class. Otherwise, you can also send me an e-mail and I will either try to answer your question directly, or propose to meet.

### **Course's Objectives - Objectifs du cours :**

This course provides an introduction to Market Finance. Modern managers can use financial assets such as stocks, bonds, futures or options to raise cash, to invest, to hedge particular kinds of risk, or to change the returns on their portfolios in certain ways. The aim of this course is to provide students with a broad vision of asset pricing, portfolio theory and derivatives pricing, from reasoning to the practical implementation of the modern theory of asset pricing.

In the first part of the course, we study equilibrium asset pricing theory, introducing classical models like the Capital Asset Pricing Model (CAPM). Building on theory in a frictionless environment, we discuss the major implications for investors, e.g., with respect to diversification, systematic versus idiosyncratic risk, exchange-traded funds. We will also discuss several empirical challenges for the theory, for example, the equity premium puzzle, the risk-free rate puzzle, and the excess volatility puzzle. In the second part of the course, we study (no-) arbitrage theory, and its applications to value financial derivatives such as simple forward contracts and plain vanilla options.

In order to provide a useful treatment of these topics it is necessary to stress fundamentals and to explore topics at a somewhat technical level. By the end of the module students should be able to:

- Recognize different types of financial assets and markets.
- Discuss the characteristics and payoffs of the financial assets.
- Explain the risk/return trade-off.
- Describe the benefit of diversification of holding a portfolio of assets.

- Compute the price of stocks using traditional asset pricing models.
- Value bonds.
- Explain how derivative instruments may be used to manage risks or design directional strategies.
- Price simple forward contracts on financial assets by arbitrage.
- Price a European call or put option in the binomial model of Cox-Ross-Rubinstein.

**Prerequisites - Pré requis :**

This course is a technical course. Students are expected to have a minimum preparation in probability theory (random variables, expectation, conditional expectation, variance, covariance, binomial distribution, normal distribution) and statistics. Basic knowledge of intermediate microeconomics (expected utility theory) is also required.

**Practical information about the sessions - Modalités pratiques de gestion du cours :**

Lecture handouts will be made available via moodle. I strongly recommend that you download or print them out before coming to class. This will allow you to take notes more effectively and concentrate on following the class discussion. While much of the class will take the style of a lecture, I will encourage interactions by having open discussions and short problems from time to time. Tablets dedicated to taking notes on the slides are allowed during class. Laptops are not allowed. The class will start on time and I expect all students to respect a punctual beginning by not showing up late to class.

A problem set will be posted on Moodle at the end of each chapter. Solutions will be discussed in class and posted after the following lecture.

**Grading system - Modalités d'évaluation :**

The final grade will be based on a 1h30 examination at the end of the course. This is a closed-book exam. Simple pocket calculators are allowed.

**Bibliography/references - Bibliographie/références :**

The books for this class are:

Derivatives Markets (3rd edition), by Robert L McDonald.

Asset Pricing, Revised Edition, by John Cochrane, Princeton University Press, 2005.

**Session planning - Planification des séances :**

The tentative course outline is as follows:

Week 1.	Ch1. Introduction
Week 2.	Ch2. Risk and risk aversion
Week 3.	Ch3. Stocks and stock markets
Week 4.	Ch4. Portfolio theory
Week 5.	Ch5. Capital Asset Pricing Model (CAPM)
Week 6.	Ch6. Bonds and bond markets
Week 7.	Ch7. Derivatives and derivatives markets

Week 8. Ch8. Pricing forwards and futures

Week 9. Ch9. Option pricing

Week 10. Conclusion, Revision & exam practice

**Distance learning – Enseignement à distance :**

Synchronous distance learning would be implemented when necessary. It would include:

- Online lectures