

Finance and Quantitative Risk Analysis

Course title – Intitulé du cours	Finance and Quantitative Risk Analysis
Level / Semester – Niveau / semestre	M2 / S4
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Jean-Charles Rochet
Other teacher(s) – Autre(s) enseignant(s)	
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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	English / Anglais
TA and/or TP Language – Langue des TD et/ou TP	

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

Email and office: Jean-Charles Rochet , jean-charles.rochet@tse-fr.eu

Course Objectives – Objectifs du cours :

This course aims at introducing the risk management methods and instruments used by companies. We explain the intriguing result due to Modigliani and Miller showing that risk management would be totally superfluous in the absence of financial frictions. We also show why risk management is fundamental as soon as these frictions are considered. Finally, we explain the functioning of the different types of financial contracts, both Over the Counter and centrally traded, that are used by Risk Managers.

Prerequisites – Pré requis :

A minimum knowledge of Asset Pricing methods in Finance is required.

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

Students are expected to attend and actively participate in all lectures.

Grading system – Modalités d'évaluation :

The final grade consists of the following parts:

- Final exam at semester end (25%)
- Presentation of group projects (75%)

Bibliography/references – Bibliographie/références :

Bénéplanc and J.-C. Rochet (2011) “Risk Management in Turbulent Times”, Princeton U.P.

G. Plantin and J.-C. Rochet (2007) “When Insurers go Bust”, Princeton U.P.

J.-C. Rochet (2008) “Why Are There So Many Banking Crises?”, Princeton U.P.

S. Moreno-Bromberg and J.-C. Rochet (2018) “Continuous Time Models in Corporate Finance, Banking and Insurance”, Princeton U.P.

Session planning – Planification des séances :

- 1) Risk Management: what must be changed
- 2) What is behind Risk Modeling
- 3) The Efficient Markets Hypothesis and its dangers
- 4) Risk Management and Shareholder Value
- 5) Continuous Time Models 1: Liquidity Management
- 6) Continuous Time Models 2: Equity Issuance
- 7) Continuous Time Models 3: Applications to Banking
- 8) Continuous Time Models 4: Applications to Insurance
- 9) Continuous Time Models 5: Applications to Investment
- 10) What to do in Practice.

Distance learning – Enseignement à distance :

Distance learning can be provided when necessary by implementing, for example: / En cas de nécessité, un enseignement à distance sera assuré en mobilisant, par exemple :

- Interactive virtual classrooms / Classe en ligne interactive
- Recorded lectures (videos) / Vidéo enregistrée de la présentation du matériel pédagogique
- MCQ tests and other online exercises and assignments / QCM et exercices en ligne
- Remote (online) tutorials (classes) / TP/TD à distance
- Chatrooms / Forums