Dauphine | PSL
UNIVERSITÉ PARIS

Risk Management

ECTS : 3

Description du contenu de l'enseignement :

Part 1 (L. DAHAN – 18h) : Risk management in practice
The Part 1 objective is to understand the issue of risk management. The principal ways of understanding and learning about risk are considered. Greeks computation is used to explain the daily P/L in a normal trading environment. The VaR is used to take into account market tail events while stress testing highlights performance under extreme market conditions. In a similar measure the course attempts to present the counterparty risk for market operations. This course shows also how all these measures come within the framework of the Basel Accords (3 pillars, regulatory capital requirements...)
Part 2 (X. BOCHER – 12h) : Mathematical framework of market risk measures and its limits
The Part 2 objective is to go deeper into Risk Measures introduced in Part 1, from a mathematical prospective (main measures, properties, limits, implementation). Then the course leads to the identification of main empirical sources of market risks and introduces more sophisticated models that allow to take into consideration those sources of risks. Within this framework, topics will be firstly introduced through empirical observation of data ("Stylized Facts") to lead to modeling answers and their application for risk management purpose.

Course outline:
Part 1 : Risk management in practice

- Introduction to Risk-Management
- Value-at-Risk
- Stress test
- Counterparty risk on derivatives

Part 2 : Mathematical framework of market risk measures

- Introduction
- Mathematical definition and properties of a Coherent Risk Measure
- Stylized facts on market risk and models to take them into consideration

Compétence à acquérir :

Master the issues and tools in risk management

Mode de contrôle des connaissances :

Final Exam

Bibliographie, lectures recommandées :

Cherubini U., E. Luciano and W. Vecchiato, 2004, Copula Methods in Finance, Wiley, 310 pages.
Roncalli T., 2009, La Gestion des Risques Financiers, Economica (2ème édition), Collection Gestion, 455 pages.