Financial Mathematics

ECTS : 3

Volume horaire : 18

Description du contenu de l'enseignement :

This course is designed as a first introduction to the mathematics used in finance. Starting from basic concepts such as interest rates, compounding, discounting, time value of money, NPV, the various lectures will expose the students to a whole range of financial instruments and their pricing, including annuity, loans with an added special focus on the fixed income world from a “markets practitioner’s perspective” towards the end of the course. By which time, the aim will be for them to be familiar with the pricing and risk management of bonds, forward rates agreements and other simple derivatives.

Compétence à acquérir :

By the end of this module, students will have demonstrated:
Knowledge
1. Understanding of the “time value of money” concept
2. Understanding of the concept of interest rates compounding
3. Knowledge of the different types of loans
4. Ease with use of NPV for project finance applications
5. Basic knowledge of bonds market/risk management tools

Skills
6. Ability to calculate equivalent interest rates
7. Ability to perform calculations on loans.
8. Relative ease with bonds math

Values and Attitudes
8. Rigor in mathematical reasoning
9. Willingness to understand the implications of the concepts at play

Bibliographie, lectures recommandées :

- Devolder, Fox et Vaguener, Mathématiques financières, 2e édition, Pearson Education
- Schaum's Outline of Mathematics of Finance, Second Edition