

Course type : 24 hours - 3 ECTS

Optional module for CES students (Unit 4) – 4th year module

Prerequisites:

- Introductory knowledge in microeconomics and accounting.
- Basic mathematical skills: variance, covariance, derivatives of usual functions.
- Knowledge of investment decision tools (Net Present Value, Internal Rate of Return) is appreciated but not required.

Outline:

Chapter 1 Fixed Income

- Definition and characteristics of bonds
- Bond pricing : zero-coupon rates, yield-to-maturity, the quotation of bonds
- Interest rate risk: sensitivity and duration
- Particular bonds: Floating rate notes, convertibles, mandatories...

Chapter 2 Decision making under risk

- Mathematical expectation
- The expectation-variance framework and the risk/return substitution
- Expected utility
- Portfolio choice under risk: An introductory model

Chapter 3 Portfolio management

- Risk and return in a portfolio : the two assets case
- Systematic risk and diversification
- The Capital Asset Pricing Model
- Actuarial valuation models : The Gordon-Shapiro model and Price-Earnings ratios

Chapter 4 Forward contracts

- Forward transactions and risk transfer
- Characteristics of a forward contract
- Speculation, hedging, and arbitrage

Chapter 5 Options

- Definition and basic transactions
- The call/put parity
- Determinants of option prices
- The Black and Scholes formula.

Reference book:

Finance d'entreprise (Corporate Finance), Jonathan Berk and Peter DeMarzo, Pearson

Assessment:

Written final examination, 2 hours