


ASSET PRICING

 Niveau d'étude
BAC +5

 Composante
Ecole d'économie de la Sorbonne (EES)

 Volume horaire
18h

 Période de l'année
Automne

En bref

- > **Langue(s) d'enseignement:** Anglais
- > **Méthodes d'enseignement:** En présence
- > **Forme d'enseignement :** Cours magistral
- > **Ouvert aux étudiants en échange:** Non

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Description

Summary: This course focuses on the traditional models that are currently adopted to specify the fair prices of financial assets under no arbitrage condition.

The range of assets is from the single stock or bond to complex derivatives. Different frameworks are examined depending on the characterisation of time and/or uncertainty. The question of pricing crypto-assets is also addressed.

Professor : Catherine Bruneau (Professor of Economics - University Paris 1 Panthéon-Sorbonne)

Student assessment: Final exam (50%) + numerical implementation related to one of the topics of the course (50%)

Pré-requis obligatoires

Courses on Financial Markets, Probability, Statistics and Econometrics.

Contrôle des connaissances

Student assessment: final exam (50%) + numerical implementation related to one of the topics of the course (50%)

Syllabus

1 Stock pricing: Random Walk and Present Value Model (1 session)

- Efficient Market Hypothesis, Random walk Model, Dynamic Gordon Growth Model, Empirical investigation of observed prices from the model with the application of cointegration theory.

2 Arbitrage pricing theory (APT): linear factor model and decomposition of asset's risk premium (1 session)

- « Exogenous » Factors associated with observed series according to Ross (1976) for theory and Chen, Roll and Ross, (1986) for empirical implementation.

3 Bond pricing (1 session)

- Arbitrage free pricing of a bond: zero coupon and general bonds, interest rates and yield curves.

- Interpolation of yield curves.

- Factorial analysis of yield curves.

- Back Propagation learning in neuronal network models: application to prediction of recessions by using yield curves.

4 Pricing of derivatives in discrete time (1 session)

- Uncertainty tree, binomial tree of Cox Ross and Rubinstein for pricing of call on a stock. Example of pricing of a call on corporate bond.

5 Pricing in continuous time (1 session)

- Introduction to diffusion processes, principles of derivation of Black and Scholes formula, simulation-based option pricing.

6 Pricing of crypto-asset (1 session)

Infos pratiques

Campus

› Maison des Sciences Économiques