

- Faculté des sciences économiques
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### Asset pricing (5AF2003)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en finance</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master en statistique</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

#### Période d'enseignement:

- Semestre Automne

#### Equipe enseignante

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#### Contenu

In the first part of the course, we discuss the optimal consumption and investment decision in a one period model under uncertainty and risk aversion. This leads us to the construction of a static equilibrium model of financial assets valuation: the Capital Asset Pricing Model (CAPM). We then move on to arbitrage based valuation and multifactor models. In the second part of the course, we study present value relations and then derive a dynamic equilibrium model: the Consumption-Cased Asset Pricing Model (C-CAPM). We emphasize the link between the different approaches and show that there are, in fact, different specifications of the same equation, namely a characterization of the stochastic discount factor. The theoretical models that we derive will be empirically assessed; strengths and weakness of the models will be discussed to learn about their usefulness for practical applications.

#### Tentative course outline:

- Risk and Return
- Choice under Uncertainty
- Portfolio Choice
- Mean-Variance Analysis
- The CAPM and APT
- Empirical Assessment of the CAPM/Factor Models
- Anomalies and Alternative Responses to the Evidence
- Stochastic Discount Factors
- Present-Value Relations

#### Forme de l'évaluation

Mid-term: one-hour written exam (30%)  
Final: two-hour written exam (70%) during the last lecture of the semester  
Re-take: two-hour written exam (100%) during the re-take session.

Allowed tools (written exam): Simple calculator, cheat sheet (one page DIN-A4, back and front, handwritten).

In case of violation of these rules, the students are in situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

#### Documentation

John Y. Campbell, Financial Decisions and Markets: A Course in Asset Pricing, Princeton University Press (2018)

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## **Asset pricing (5AF2003)**

### **Pré-requis**

One courses in finance (Bachelor); e.g. principles of finance.

### **Forme de l'enseignement**

Lectures: four hours per week.

### **Objectifs d'apprentissage**

Au terme de la formation l'étudiant-e doit être capable de :

- Explain the concept of risk aversion and describe optimal investment decisions under uncertainty
- Outline the construction of a static and dynamic equilibrium models of financial asset valuation
- Describe the assumptions behind asset pricing models and why these might be violated in practice
- Solve portfolio choice problems under uncertainty
- Apply asset pricing models to evaluate the pricing of financial assets in the cross-section of assets and over time
- Illustrate advantages and limitations of specific asset pricing models in real-life situations
- Conclude whether portfolios of financial assets are efficient
- Evaluate whether financial assets are fairly priced
- Explain practical implications of the limitations of theoretical models
- Describe important topics of asset pricing orally or in writing
- Assemble conceptual knowledge

### **Compétences transférables**

- Decision making
- Communicate results in writing
- Communicate results orally
- Carry out a critical analysis
- Apply knowledge to new situations
- Generate new ideas (creativity)