

- 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

We start with studying optimal consumption and investment decisions in a one period model under uncertainty and risk aversion. This leads us to the construction of a static equilibrium model of financial asset valuation, the Capital Asset Pricing Model (CAPM). We discuss alternative approaches with arbitrage-based valuation and empirical multifactor models. Empirical methods are presented and applied to test the empirical validity of the different models.

We emphasize the link between the different approaches and show that they are, in fact, different specifications of the same equation, namely a characterization of the stochastic discount factor. The Consumption-Based Asset Pricing Model (C-CAPM) is introduced as an application of the stochastic discount factor framework.

In the final part of the course, we discuss the concept of market efficiency and the possibility of return predictability.

#### Tentative course outline:

- Choice under Uncertainty
- Portfolio Choice
- Mean-Variance Analysis
- The Capital Asset Pricing Model (CAPM)
- Empirical Assessment of Asset Pricing Models
- Anomalies and the Factor Zoo
- Response to the Failure of the CAPM
- Multifactor Asset Pricing Models
- The Consumption-CAPM & the Equity Premium
- Market Efficiency
- Present Value Relations

#### Forme de l'évaluation

Mid-term: one-hour written exam. Final: two-hour written exam during the exam session  
Final Grade:  $\max[1/3 \cdot \text{mid-term} + 2/3 \cdot \text{final}; 1.0 \cdot \text{final}]$

Re-take: two-hour written exam during the exam session.  
Final Grade: 100% re-take exam

Allowed tools (written exam): Simple calculator, cheat sheet (one page DIN-A4, back and front, handwritten NOT printed).

URLs	1) <a href="https://moodle.unine.ch/user/index.php?id=8481">https://moodle.unine.ch/user/index.php?id=8481</a>
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### **Asset pricing (5AF2003)**

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)  
Research articles provided on moodle.

#### **Pré-requis**

One courses in finance (Bachelor); e.g. Principles of Finance. Introduction to Econometrics (Bachelor)

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

Lectures: four hours per week.

#### **Objectifs d'apprentissage**

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

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

#### **Compétences transférables**

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