

# Asset Pricing I

## Academic Year 2018/19, Fall 2018

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Classroom: 251  
Times: see course schedule

### COURSE DESCRIPTION

The course presents an introduction to portfolio choice theory and asset pricing. First, tools for static portfolio choices are developed, with particular emphasis devoted to mean-variance analysis (Unit 1). The course then leans towards asset pricing, considering models based on equilibrium and arbitrage (CAPM, APT and consumption-based asset pricing, Unit 2). Finally, the relevance of the time horizon is analysed by means of dynamic models both in discrete (Unit 3) and continuous time (Unit 4).

### RECOMMENDED TEXTBOOKS

There is no ideal textbook for this course. The main reference textbook is:

[B] K.E. Back, *Asset pricing and portfolio choice theory*, Oxford University Press, 2010

On occasions, we will integrate [B] with material from:

[C] J.H. Cochrane, *Asset pricing*, Princeton University Press, revised edition, 2005

One alternative reference to [B] for static portfolio choices and asset pricing models (Units 1-2) is:

[LR] S.F. LeRoy and J. Werner, *Principles of financial economics*, Cambridge University Press, 2001

In case you have already bought [LR], the detailed references are given below.

### COURSE MATERIAL

Additional course material (slides, further readings and problem sets) will be made available via email.

### GRADING

The final grade for this course is calculated according to the following scheme:

Class participation	10%
Midterm exam	40%
Final exam	50%

The midterm exam will be held on TBD, while the final will take place on TBD.

Both exams are closed book, and contain a mix of multiple choice and open-ended exercises. You will be allowed to use a silent battery operated calculator during the exams, while laptops are not allowed. Verbal appeals of grades will not be accepted. I will be glad to re-grade any exam. However, you must provide a statement in writing as to where and why there is a problem. Importantly, the entire exam will be re-graded. As a result, the re-graded score may increase, remain the same, or decrease. Exams written with pencil are not valid.

## DETAILED COURSE STRUCTURE

Unit	Session	Topic	Textbook References
Individual optimality and pricing	1	Risk and risk aversion	[B] ch.1; [LR] ch.9
	2	Optimal portfolio choices	[B] ch.2; [LR] ch.11-13
	3	Individual optimality and absence of arbitrage: FTAP	[B] ch.2; [LR] ch.1
	4	Mean-variance analysis	[B] ch.5; [LR] ch.18; [C] ch.5
Equilibrium and pricing	5	Equilibrium: pareto optimality and representative agent	[B] ch.3,7; [LR] ch.15
	6	Capital asset pricing model (CAPM)	[B] ch.6; [LR] ch.19; [C] ch.9
	7	Factor pricing and APT	[B] ch.6; [LR] ch.20; [C] ch.9
	8	Consumption-based asset pricing	[B] ch.6; [C] ch.9
Dynamic asset pricing	11	Dynamic securities markets	[B] ch.8
	12	Portfolio choices by dynamic programming	[B] ch.9
	13	Dynamic equilibrium and asset pricing	[B] ch.10,11; [LR] ch.27; [C] ch.8
Continuous-time asset pricing	14	Continuous-time securities markets	[B] ch.13
	15	Continuous-time portfolio choices	[B] ch.14