



## **Course information 2023-24**

# **FN2190 Asset pricing and financial markets**

### **General information**

**COURSE LEVEL:** 5

**CREDIT:** 30

**NOTIONAL STUDY TIME:** 300 hours

### **Summary**

This course is aimed at students who wish to understand how financial markets work and how securities are priced. Using present value techniques, it gives a theoretical treatment of bond and stock valuation including portfolio theory and a development of the Capital Asset Pricing Model. The concept of financial market efficiency is introduced, and evidence for efficiency evaluated. Finally, there is a presentation of derivative pricing using absence of arbitrage arguments.

### **Conditions**

**Prerequisite:** If taken as part of a BSc degree, the following course(s) must be attempted before you can register on this course.

- EC1002 Introduction to economics **AND**
- **Either** MT105a Mathematics 1 **OR** MT105b Mathematics 2 **OR** MT1174 Calculus **OR** MT1186 Mathematical methods.

**Exclusions:** You may not register for this course in the same year as:

- AC3059 Financial management

### **Aims and objectives**

The aims of this course are to:

- Provide students with a thorough grounding in asset pricing
- Develop students' skills in applying pricing methods to realistic scenarios.
- Provide a critical overview of the research on financial market efficiency.
- Allow students to develop an understanding of how securities markets operate.

### **Learning outcomes**

At the end of the course and having completed the essential reading and activities students should be able to:

- Describe the important differences between stock, bond and derivative securities.
- Explain how to price assets using both present value and absence of arbitrage methods.

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- Apply present value techniques to price stocks and bonds
- Employ mathematical tools to compute risk and return for portfolios of securities.
- Evaluate portfolio choice problems.
- Present, explain and apply the Capital Asset Pricing model for computing expected stock returns.
- Critically evaluate the evidence for informational efficiency of stock markets
- Price derivative securities using absence of arbitrage.

## Essential reading

For full details, please refer to the reading list.

Brealey, R, Myers, S. and F. Allen Principles of Corporate Finance. (McGraw Hill, 2019) thirteenth edition [ISBN 978-1260565553]

## Assessment

This course is assessed by a three-hour and fifteen-minute closed-book written examination.

## Syllabus

**Present value calculations;** discounting, compounding and the Net Present Value rule; quoted versus effective interest rates; annuities and perpetuities; Fisher separation.

**Bond valuation:** valuing coupon, and zero coupon, bonds via present value methods; the term structure of interest rates and bond valuation; yield to maturity; interest rate risk and Macaulay duration; spot and forward interest rates; modelling the term structure of interest rates.

**Stock valuation:** dividend discount models; the Gordon Growth model; earnings, payout ratios and stock prices; company valuation and the Present Value of Growth Opportunities.

**Portfolio Theory and the Capital Asset Pricing model:** investor preferences; the mathematics of security portfolios; investor portfolio selection; market equilibrium and the CAPM; empirical evaluation of the CAPM and competing models.

**Efficient security markets:** defining informational efficiency; why should markets be efficient?; problems with testing efficiency; evidence on the efficiency of stock markets; puzzles and anomalies.

**Derivative pricing:** the definition of a derivative contract; how to price derivatives using absence of arbitrage; forwards and futures contracts; pricing forwards on stocks, currencies and commodities; option contracts; practical uses of options contracts; bounds on option premia; option pricing via binomial models and Black-Scholes.

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