



## Bachelor's courses School of Business and Economics

VU University Amsterdam - Student- & Onderwijszaken - Exchange programme Vrije Universiteit - 2019-2020



# Investments

<b>Course code</b>	E_EBE3_INVES ()
<b>Period</b>	Period 5
<b>Credits</b>	6.0
<b>Language of tuition</b>	English
<b>Faculty</b>	School of Business and Economics
<b>Coordinator</b>	dr. T.C. Dyakov
<b>Examinator</b>	dr. T.C. Dyakov
<b>Teaching method(s)</b>	Lecture, Seminar
<b>Level</b>	300

## Course objective

This course offers a comprehensive introduction to the world of investments. The course is structured in four broad parts, covering fundamental areas of investments: Portfolio Theory and Asset Pricing; Empirical Evidence on Security Returns and Portfolio Management; Fixed-Income Securities; and Options, Futures and Other Derivatives .

All parts of the course are closely knitted to the learning goals of Academic and Research Skills, Bridging Theory and Practice – Knowledge, and Bridging Theory and Practice – Application.

By the end of the course students should be able to:

- Compute fundamental risk-management techniques: Value-at-Risk and Expected Shortfall;
- Apply the Markowitz portfolio selection model and construct an efficient frontier of risky assets;
- Compare the Capital Asset Pricing Model (CAPM) against the Arbitrage Pricing Theory. Test the predictions of the CAPM and examine market efficiency;
- Price fixed income securities and construct the Term Structure of Interest Rate;
- Solve portfolio immunization problems by matching the duration of assets and liabilities;
- Build a binomial tree and apply the Black-Scholes formula;
- Price swaps.

## Course content

Investment decisions take a prominent role in everyday life. We can think of investment decisions taken by institutional investors (banks, insurance companies, pension funds, mutual funds), but also of financial decisions taken by individual households (additional pension savings, savings for children education, buying a house, etc.). Investment theory is also strongly linked to risk management. The importance of sound decision making in this field has been underlined by recent experiences on financial markets, law suits involving complex financial products for retail clients, etc. The key objective of this course is to provide understanding of the pricing of different asset classes and insights into the principles of investment analysis. A framework is developed that allows one to address a variety of (at first sight) completely different investment problems in a unified way.

## Form of tuition

Lectures.

Tutorials.

**Type of assessment**

Written exam – individual assessment.  
(Interim) Assignment(s) – group assessment.

**Course reading**

Zvi Bodie, Alex Kane and Alan J. Marcus: Investments, McGraw Hill  
(Latest Global Edition).  
Additional readings might be announced on Canvas.

**Entry requirements**

Finance I or equivalent.

**Recommended background knowledge**

The course relies on prior knowledge on linear algebra and statistics (QRM I, QRM II, and QRM III). Even though it offers a very brief introduction to the concepts and tools in this area that we will primarily use, students are strongly advised to review this material from relevant courses in the first two years of studies. I will further assume that students have a good understanding of the material covered in Finance I, Finance II, and Financial Markets and Institutions.

Students are also recommended to refresh their basic Excel and STATA skills, as bi-weekly empirical assignments constitute an important part of the course.

**Remarks**

This course provides the knowledge basis for students aiming at an MSc in Finance and a career in the financial sector.