MSc Finance program

Core Courses

Period 1
Sep/Oct

Asset Pricing
Dr. Zwinkels

Adv. Corporate Finance
Prof. Rijken

Empirical Finance
Prof. Lucas
Dr. Opschoor

Research project
Dr. Tumer-Alkan

Financial Markets and Institutions
Prof. van Lelyveld

MSc thesis
1 Apr. – 1 Jul.

Pre-requisite:
Derivatives
Dr. Seeger

Valuation and Corporate Governance
Dr. Millone

Finance electives

Institutional Investments and ALM
Dr. Boes

Behavioral Corporate Finance
Dr. van den Assem

Real Estate Management
Dr. Hamelink
Prof. Rouwendal

Bank Management
Prof. Boonstra

Rabo Honours Class (9ects)

Core courses: 24
Research project: 6
Thesis: 18
Finance elective: 6
Free elective: 6
Total: 60 ects

Key persons
Program director: Prof. A. Lucas
Secretary: Ms. D. Tielman

Further information
MSc Finance at the VU
& Study guide
This course aims to achieve advanced knowledge in theory and practice of corporate finance: understanding theoretical concepts (their strengths and limitations) and application of these theoretical frameworks in solving practical cases.

After following this course, you
1. understand basic Corporate Finance concepts, including their strengths and limitations and interrelationship with each other
2. have quantitative skills to apply these basic concepts and
3. have the skills to apply the concepts in real life cases.

This course has a strong focus on concepts about financing a company.

Prof. dr. ir. H.A. Rijken

Asset Pricing is a core course of the MSc Finance. This course aims to deepen your knowledge in the field of asset pricing and asset allocation. After completion of the course, you should:

• Have a thorough understanding of how security prices are determined in financial markets, including equity and fixed income.
• Understand and be able to apply optimal asset allocations for both individual and institutional investors.
• Apply and analyze competing techniques in investment problems.

Dr. R.C.J. Zwinkels

Dr. Zwinkels is associate professor of finance. He recently joined the VU after working at Erasmus University, Radboud University, and KU Leuven. His main research interests include behavioral finance, with a focus on behavioral investments. He has published in a broad range of journals including *European Economic Review, Journal of Economic Dynamics and Control, Journal of Empirical Finance, Journal of International Money and Finance*, and *Quantitative Finance*.
This course deals with two important aspects of bank management: the bank business model and business process management within a bank.

The fist part of the course deals with management of (financial) risk and return. Managing financial risk at both the asset and liability side is key for banks and has to be aligned with the new Basel III rules. The current credit crisis shows the impact of overlooking and underestimating financial risks. Improving a banking business model can be seen as an optimisation of a banking portfolio - having various product-market combinations - in terms of (financial) risk and return.

Second, from a business process management perspective the organisation of a bank is studied. Crucial business (finance) processes are financial administration, internal audit and compliance. Organizational issues, HRM issues and ICT need all to be addressed for a true understanding of the bank's organisation. In this sense this course is a multidisciplinary course.

Prof. dr. W. Boonstra

Professor Boonstra is head of the economic research division and chief economist of Rabobank Netherlands. He is also professor of monetary economics at VU. He has published widely on many topics, including European integration, banking, international financial stability, and monetary economics.
Corporate finance courses and textbooks mostly tell us how we *should* make financial decisions. This course asks how we actually *do* make financial decisions, using insights from psychology, behavioral economics, and behavioral finance. It repeatedly contrasts decision making behavior with rational norms and explains why people deviate systematically from these norms. Understanding your own decision processes and those of others is fundamental to virtually every aspect of corporate finance, including valuation, capital budgeting, corporate governance, financing issues, dividend policy, and risk management.

**Dr. M.J. van den Assem**

Dr. Van den Assem is an Associate Professor of Finance. His range of research interests particularly includes themes from the fields of financial and behavioral economics. Most of his work is empirical, focused at individual choice, and based on non-standard data. His work has been published in various renowned journals, including the *American Economic Review*, the *Review of Economics and Statistics*, *Experimental Economics*, and *Management Science*. His paper on the TV game show Deal or No Deal (or “Miljoenenjacht”) is among the most frequently downloaded manuscripts all-time in the social sciences (ssrn.com).
The primary objective of this course is to provide students with an advanced introduction to derivative instruments. By the end of the course students have a sound understanding of pricing concepts and hedging concepts using discrete and continuous-time option pricing models with a focus on equity derivatives. Students will learn about stochastic calculus (the mathy part of the course) as well as techniques that foster practical applicability of derivatives such as how to estimate model parameters and using numerical pricing methods. The course is an entry requirement for the course Institutional Investments and ALM.

Dr. N.J. Seeger

Dr. Seeger is an assistant professor of finance. His main research areas are asset pricing, financial econometrics, derivatives, commodities, international macroeconomics and finance. His research has been published in The Journal of Business & Economics Statistics and The Journal of Futures Markets.
In this core course you learn the range of research methods for empirical financial research: their theoretical foundations, appropriate selection, limitations, implementation using STATA, and correct use and interpretation. This should set you well on your way towards the Research Project and your Thesis. During the course, the course is typically assessed by students as tough, quantitative, and as covering a lot of ground. The general feedback from students once they are in the Research Project or Thesis phase, however, is: “Wow, I am currently really applying everything I learnt in the Empirical Finance course.”

Prof. dr. A. Lucas (coordinator)


Dr. A. Opschoor

EXCEL TESTS

The Excel tests are a preparation for the Masters program. They consist of two parts.

- Optimization, regression, lookup and matching. This should be familiar if you hold a bachelor degree and have taken an investment-related course (entry requirement).
- VBA, dynamic arrays, looping, conditionality.

Students prepare the tests at home. The learning material is online through YouTube videos and example spreadsheets. See xlvu.weebly.com.

Dr. A.H. Siegmann

The course takes as a starting point the financial crisis of 2008, which unlike most earlier financial crises originated in advanced countries and had a global impact. There is not a single factor that caused the crisis and we can learn from the many failings in the financial system that became apparent. We then turn to the European sovereign debt crisis and the challenges this poses for financial and monetary stability.

The course analyzes how lessons learned are turned into strengthened regulation, such as Basel III and Solvency II, and discuss whether this will lead to changed behavior of market participants. We learn how macroprudential supervision tries to deal with systemic risk. We will examine proposals to improve the risk management of banks. We will also deal with non-bank financial institutions such as hedge funds, private equity and institutional investors.

Prof. dr. I.P.P. van Lelyveld

Prof. van Lelyveld is keen to use new data sources to provide policy makers with solid underpinnings for developing regulation. He is a Professor of Banking and Financial Markets and Senior Policy Advisor with De Nederlandsche Bank (DNB). At DNB he has been involved in many regulatory policy issues covering amongst others, interest rate risk in the banking book, deposit guarantee pricing, and CVA charges. He has chaired several international groups, most recently on liquidity stress testing. He has published widely on, amongst other topics, interbank networks and internal capital markets in journals such as *Journal of Financial Intermediation, Journal of Money, Credit & Banking* and *Journal of Banking and Finance*. Iman has previously worked for Deutsche Bank, the Bank of England, and the Bank for International Settlements.
In this course, students learn to analyze the investment process of institutional investors, like pension funds, and the concept of balance sheet management (Asset and Liability Management). We analyze fixed income instruments including fixed income derivatives. Students learn to setup a hedging portfolio to hedge fixed income risk. Derivatives 4.2 is a pre-requisite.

Dr. M.J. Boes

Dr. Boes is head of investment risk management at ABN Amro Pension Fund and assistant professor of finance. Dr. Boes is the coordinator of the course. His research interests are pension funds, derivatives and risk management. He has published in *Journal of Financial and Quantitative Analysis*. 
The objective of this course is to develop a deep understanding of modern quantitative risk measurement and management techniques and an ability to apply these techniques to settings of practical interest. Quantitative techniques are applied to recent development on the area of counterparty credit risk, currently the most important topic in derivatives markets. This course should set you well on your way for a risk management/quant position at a financial institution.

Dr. S.A. Borovkova (coordinator)

Dr. A. van Haastrecht
Dr. van Haastrecht is a risk management consultant insurance companies and assistant professor of finance. His research interests include quantitative risk management, ALM, and interest rate derivatives. He has published in *Quantitative Finance, Insurance: Mathematics and Economics, Journal of Futures Markets, Journal of Computational Finance and the International Journal of Theoretical and Applied Finance*.
The Rabo Honours Class is an extra-curricular programme at the Masters level for selected students. The programme is primarily intended for students from the MSc Finance (MFIN) and students from other programmes. The aims of the programme are

• to expose a select group of motivated master students to a range of current recent research topics in the area of finance (broadly defined) by means of master class sessions;

• to guide students to the frontiers of professional research, to see where theory meets practice, and to assess where one lags or leads the other and where opportunities lie for further improvements and innovation;

• to provide a stimulating learning experience for students where they are challenged to push beyond their comfort zone, engage into stimulating discussions, challenge their instructors, their peers, and above all, themselves.

The programme comprises 9 ects and is extra-curricular and is selective.

For more information about the programme and how to enroll, see the brochure on Blackboard (Announcement Board).
This course studies the analysis of real estate markets and the investment alternatives available to both debt and equity investors. It highlights the management of real estate portfolios, the analysis of mortgage markets, housing markets, and risk and return analysis applied to the main investment vehicles in real estate.

Dr. F. Hamelink

Dr. Hamelink is Associated Professor of Finance at the VU and a Fiduciary Manager with a Lombard Odier Asset Management in Geneva, where he oversees large pension funds’ portfolios. His research interests are real estate investment, quantitative investment and risk modeling. He has published in *Journal of Property Research, European Journal of Finance, Real Estate Economics, Journal of Housing Economics*.

Prof. dr. J. Rouwendal (coordinator)

Prof. Rouwendal is Professor at the Department of Spatial Economics. His research interests are the economic evaluation of cultural heritage, economic analysis of spatial planning, aging and housing. He is a research fellow of the Tinbergen Institute, an academic partner to the CPB and a senior researcher at Netspar. He has published in *Journal of Urban Economics, Journal of Applied Econometrics*.
In the research project you learn to apply your knowledge to a research question in the field of Finance. To successfully complete the research project, you have to
• identify the relevant academic literature
• formulate a precise research questions and hypotheses
• Collect and format the relevant data
• choose the appropriate (statistical) methodology for the research
• interpret the findings
• communicate the results to peers, in writing as well as in a presentation
• cooperate in a team to increase team output on a research project

Topics and teams are allocated during period 2. The research is prepared during december, and really takes shape in the 4 weeks of period 3. Attendance is compulsory during the discussion sessions, and you need to be available full time for your time: so no winter holidays during period 3!

Dr. G. Tumer-Alkan
Dr. Tumer-Alkan is assistant professor in finance. Her research interests are in banking, financial intermediation, and financial integration. She has published on this in *Journal of Banking and Finance*, *Journal of Financial Stability*, *European Economic Review*, *Journal of Corporate Finance*, *Journal of Financial Services Research*. Professor Tumer-Alkan is coordinator of the research project. More faculty are involved in the actual supervision of the research projects.
The thesis is an important part of your academic training where all the previous elements come together: knowledge, skills, attitude, and creativity. It gives you the opportunity to engage in your own independent academic research and to give your distinctive signature of what you can do in a relatively short period of time. This can be a valuable signal towards the labor market.

A variety of faculty members is involved in thesis supervision. The logistics of the thesis process are tightly scheduled in either the Spring or the Fall semester, so that you have two options to start your thesis. The thesis has to be completed in three months time, with an exception if you have an approved internship linked to your thesis topic.

You should have passed a minimum number of two core courses plus the Research Project 4.3 to be allowed to start the thesis.

The thesis manual will be made available in October.

Prof. dr. A.C.F. Vorst

Professor Vorst is professor in Finance and this year’s coordinator of the thesis process. Next to his academic career, he has a wide experience in banking as head of Risk Management at both ABNAMRO and RBS. He has published internationally in *Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of International Money and Finance, Journal of Applied Econometrics.*

All thesis correspondence via: finthesis.feweb@vu.nl
This course elaborates on the course Advanced Corporate Finance and has a strong focus on corporate valuation. Financing and Valuation are closely connected in the field of Corporate Finance. Key topics are cash flow valuation techniques (theory and practice) and pricing models for equity investments and debt investments. We follow closely the standard methodology practiced by professionals and confront this with the standard academic literature on Corporate Valuation. Specialized topics will be addressed: balance sheet valuation, corporate valuation in practice with multiples, measurement of value creation, corporate valuation in special cases of high growth perspectives, high current investments, real estate and real option valuation etc. Corporate Valuation topics will be applied in several business cases.

Dr. M. Millone

Dr. Millone is assistant professor in finance. He has a multidisciplinary background in Economics, Law and Political Science. His work is focused on banking in emerging countries and the interaction between social and financial performance at the level of both institutions and investors. His work on benchmarking the performance of Microfinance Institutions (MFIs) has been published on *World Development*. He in currently interested in regulatory arbitrage in banking and alternative finance.