The pre-master programme consists of 30 EC (5 courses of 6 EC each) and runs for half a year (February till July). The pre-master programme is only to be taken by students with a suitable HBO degree. It is a bridge programme that aims to prepare HBO students for studying at a university. Therefore, it mostly consists of courses that provide training in academic reading, reasoning, and writing, research methodologies and statistics. Each master has its own pre-master programme. Upon successfully completing the pre-master programme you are entitled to enrol in the master programme.

How to prepare for the Finance Premaster (pdf)
## Inhoudsopgave

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Premaster Finance

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Academic Paper

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<td>Coördinator</td>
<td>dr. M.W. van Gelderen</td>
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<td>Examinator</td>
<td>dr. M.W. van Gelderen</td>
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Doel vak
To gain experience in designing, executing, and reporting research

Inhoud vak
Academic Paper is the capstone course of the premaster programme. You will conduct a piece of research for which you will go through an entire research cycle. In your academic paper you report on a piece of research that you have conducted. The academic paper is written in accordance with standards and conventions for academic writing. The academic paper is written in English.

Each master and BA specialisation has their own manual for academic paper, which can be found on the Blackboard site.

For a number of masters and specialisations, period 6 is too short to conduct a complete research, and you will start already in period 4 or 5.

Most masters and BA specialisations will start their research already in period 5 while doing the method courses such as Qualitative Research Methods and Quantitative Research Methods. These two courses provide training in research design and data analysis. Please note, however, that your instructors for the methodology courses hold no responsibility for the supervision of, or data collection for the academic paper – these responsibilities remain with your academic paper supervisor.

Parallel to these courses you will meet with your supervisor to decide on a research design, and you will start collecting data so that you can...
devote period 6 mostly to writing up your results.

Those who study Accountancy will take part in the part-time Accountancy programme and have their own arrangements. Please contact Cees Camfferman for details (c.camfferman@vu.nl).

Academic Paper supervision

Master/specialisation Supervisor Email address
Finance Victoria Atanasov (v.atanashov@vu.nl)
Marketing Ingmar Leijen (ingmar.leijen@vu.nl)
BA – Strategy & Organisation Astrid ter Wiel (a.a.ter.wiel@vu.nl)
BA – IKM Marlous Agterberg (m.agterberg@vu.nl)
BA – HRM Evgenia Lysova (e.lysova@vu.nl)
BA – Management Consultancy Koen van Bommel (k.van.bommel@vu.nl)
Entrepreneurship Etienne Schraven (e.schraven@vu.nl)
BA – Financial Management Norman Seeger (n.j.seeger@vu.nl)
BA - TSCM Eirini Spiliotopoulou (e.spiliotopoulou@vu.nl)

Contact your master- or specialisation supervisor for any questions or guidance. If that does not resolve your issues, then contact the overall pre-master programme coordinator Marco van Gelderen at m.w.van.gelderen@vu.nl.

Onderwijsvorm
You will make individual appointments with your supervisor. Those of you who start their academic paper in period 4 or 5 will make appointments with your supervisor in that period.

Toetsvorm
Each master and specialisation has its own manual for the academic paper. This manual contains information on such things as assessment criteria, assessment procedures, minimum requirements and expectations, structure of the paper, deadlines, and responsibilities of students and supervisors. This manual will be found in due course on the Academic Paper blackboard site.

In case your academic paper does not pass, you will have the opportunity to submit a new version.

Literatuur
The readings involved in producing the academic paper are master/specialisation specific, and mainly consist of journal articles to be gathered by the student. Individual supervisors may supply you with a key starting reference where needed.

Overige informatie
For this course you do not need to subscribe. You will be subscribed by the department.

Corporate Financial Management

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**Doel vak**
This course expands on financial topics covered in the first and second year. The emphasis in this course is on the Optimal Capital Structure of a corporation. The aim is to prepare students for a (possible) career as (assistant) Financial Manager in Industry or in the FBI sector: Finance, Banking (commercial and investment) and Insurance, incl. pension funds, investments funds, stock markets, Euronext, DNB, ECB, AFM, Ministry of Finance etc.

**Inhoud vak**
The following topics, issues and concepts will be dealt with:
- Capital structure in perfect Markets
- Leverage and Debt
- Optimal Capital Structure with Taxes and Financial Distress
- Payout Policy, Dividends and Share Repurchases
- Capital budgeting and Valuation
- Financial Modeling
- Corporate Governance

**Onderwijsvorm**
Lecture. Students have to complete before each lecture quizzes (tests) on MyFinancLab.

**Toetsvorm**
written interim examination (80% 5, 0 min.) cases / tutorials (20% of final grade based on average of scores of tests and quizzes on MyFinanceLab.

**Literatuur**

**Vereiste voorkennis**
This course is for Business Administration students and/or Pre- Master BK students specializing in Financial Management. Students must be familiar with Corporate Finance / Financial Management as covered in the 1st and 2nd year.

**Overige informatie**
ONLY FOR PREMASTER STUDENTS:
For this course you do not need to subscribe. You will be subscribed by the department.

**Investments**
Doel vak
This course aims to make students familiar with the insights from investments and portfolio management theory. Students also have to be able to apply these insights in practical situations involving portfolio decisions and investment management for both individuals and institutions.

The course is divided in four parts – portfolio theory and asset pricing, security analysis and portfolio management, fixed income securities, and derivatives.

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

Part 1. Portfolio theory and asset pricing (Lecture 1-4)
- calculate statistical measures of risk and return, such as expected returns and standard deviations, ex post and ex-ante, perform a time series analysis of historical rates of return, understand stylized facts about asset returns in terms of their distributional characteristics;
- calculate and understand the implications of risk measures (Value-at-Risk and Conditional tail expectation) based on different distributional assumptions;
- understand and apply the concept of risk aversion in the utility function of an investor and its effect on asset allocation;
- compute and explain the concept of expected utility;
- optimally allocate a portfolio between risk-free and risky assets based on mean-variance preferences and understand the effect of leverage;
- obtain a mean-variance frontier from a universe of assets;
- define systematic and firm-specific risk and evaluate the effect of portfolio diversification on the firm-specific risk in a portfolio;
- interpret and estimate index models, explain the decomposition of risk that they imply and obtain optimal portfolios based on them;
- have a thorough understanding of the Capital Asset Pricing Model (CAPM), its assumptions and resulting equilibrium conditions; test empirically the validity of the CAPM implications and be able to review extensions of the CAPM that rely on relaxing one or more of its assumptions;
- have a thorough understanding of factor models and the Arbitrage Pricing Theory (APT) and its equilibrium implications;
- identify and discuss the forms or market efficiency and related empirical tests of the efficient market hypothesis;
- understand the premises of behavioral finance;
- master the methodology behind testing empirically the validity of the CAPM and the multifactor APT model;

Part 2. Security analysis and portfolio management (Lecture 5-6):
- have a thorough understanding of the business cycle and the macroeconomic factors that affect security prices;
- understand industry analysis and the sensitivity of different industries to the business cycle;
- value a firm using the appropriate dividend discount model and the price/earnings ratio derived from it; understand the limitations of each of these models;
- be able to analyze a firm using basic financial statements; analyze problems by using the ROE decomposition;
- carry out portfolio performance evaluation by calculating various risk-adjusted return measures;
- understand market timing and be able to test the market timing ability of a portfolio manager;
- decompose excess portfolio returns into components that can be attributed to different asset allocation choices;
- apply active portfolio management models;
- analyze hedge fund characteristics and strategies and be able to set up a statistical arbitrage strategy.

Part 3. Fixed-income securities (Lecture 7-9):
- have a thorough understanding of the characteristics and risk determinants of bonds;
- calculate yields and prices of different types of bonds;
- understand the key ratios used by rating agencies to determine bond ratings;
- understand the role of protective covenants against default risk;
- understand the principle of securitization for reallocation of credit risk;
- understand the concept of the yield curve and be able to describe the major term structure theories;
- calculate forward rates from the spot yield curve;
- construct the yield curve from observed coupon bond prices;
- fit the yield curve using the Nelson & Siegel model;
- have a thorough understanding of the concept of duration and be able to calculate it for individual bonds and for bond portfolios;
- calculate price approximations using duration and convexity
- construct immunized bond portfolios and understand the limits to conventional immunization;
- understand active bond portfolio management.

Part 4. Options, futures and other derivatives (Lecture 10-12):
- calculate pay-offs of derivative contracts and trading strategies based on them;
- build option-based portfolio strategies that achieve a certain risk-return profile;
- identify the embedded options via the pay-off structure of different assets and identify the ways in which the option-like characteristics impact the prices of these assets;
- understand the put-call parity relationship
- identify the determinants of option prices;
- apply a binomial option pricing model via a replicating portfolio or using risk-neutral valuation;
- compute the Black-Scholes value of an option;
- compute hedge ratios and construct portfolio insurance strategies using option hedge ratios;
- understand the trading mechanisms involving futures contracts, incl. margin trading arrangements, the trading strategies based on them and the risks involved.

Inhoud vak
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 financial
decisions taken by individual households (additional pension savings, saving for one’s children’s education (and how), buying a house, etc.) Investment theory is also strongly linked with 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, the debate about the (in)solidity of pensions, etc. The Investments course aims to provide an overview of 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. The course is divided in four parts – portfolio theory and asset pricing, security analysis and portfolio management, fixed income securities, and derivatives.

**Onderwijsvorm**
Lectures and tutorial sessions.

**Toetsvorm**
Written exam and Case work. Exam questions are meant to test the candidate’s theoretical insight as well as analytical and computational skills. Case work is used to test students implementation skills in Excel of the material treated in the course. Correctly completing a minimum of case work is compulsory for obtaining a pass for this course. Guidelines are communicated via Blackboard at the start of the course.

**Literatuur**
The course literature consists of detailed lecture slides to be found under Course documents on Blackboard. These will be posted weekly before each set of lectures. In addition to them, the textbook below is a compulsory reading material:
- Zvi Bodie, Alex Kane and Alan J. Marcus: Investments, McGraw Hill (10th edition)
As optional supporting material for the applied Excel work, I suggest the following books:
- Adair, Excel Applications for Investments (introductory book to Excel and its applications for investment problems).
- Mary Jackson and Mike Staunton, Advanced Modeling in Finance using Excel and VBA, Wiley Finance (advanced VBA applications and programming).

**Vereiste voorkennis**
The course builds upon prior knowledge in the 1st and 2nd year Finance courses (Finance 1.4, 2.2 and 2.4 for Economics students and Finance and Financial modeling 1.5 and Financial Management 2.4 for Financial Management students). For students coming from different programs or having a different background, this should correspond to mastering the concepts in the book of Braeley and Myers, Principles of corporate finance, chapters 1-15, 20-23, 27-30.

**Overige informatie**
The course is taught in English.

**ONLY FOR PREMASTER STUDENTS:**
For this course you do not need to subscribe. You will be subscribed by the department.
Doel vak
The course builds on the mathematics that has been offered at high school ("Wiskunde A"). After taking the course in mathematics, the student is expected to
a) be able to understand the basic principles of differentiation (including partial differentiation) and integration, and to apply these to elementary functions;
b) be able to find optimum values of functions of one or more variables, with or without a constraint;
c) to understand and use elementary matrix theory;
d) to apply the theory of differentiation to vectors and matrices;
e) to apply the principles of limits, sequences, and series;
f) to understand the theory of stochastic vectors and multivariate probability distributions;
g) to formulate and solve the regression model in matrix terms.

Inhoud vak
In the course ‘Mathematics’ the basic skills in mathematical thinking and working will be treated. Such skills are essential to solve problems related to, for instance, micro-economics (maximizing profit under budget constraints) and finance (present value calculation, solving a regression model using matrix theory).

Onderwijsvorm
The course consists of 18 sessions over a period of fourteen weeks. Each session takes 2 hours, and will be in particular instruction sessions with the purpose of practicing by doing exercises. In addition, the sessions will be brief lectures with the purpose of exposing the subject matter.

Toetsvorm
The assessment consists of an exam. The exam is made up of multiple choice questions and/or open questions.

Literatuur
The course relies on the following book:

Statistics
**Doel vak**
The course builds on the mathematics that has been offered at high school ("Wiskunde A or B"). After taking the course in statistics, the student is expected to
a) understand the basic idea of data and descriptive statistics (mean, median, variance, quartiles, etc.);
b) understand the basic ideas of probability (selected discrete and continuous probability distributions and their properties);
c) understand the principles of sampling, a sampling distribution, and a confidence interval;
d) understand the principles of hypothesis testing;
e) be able to select and apply an appropriate statistical test in frequently occurring situations (t-test, F-test, paired, unpaired, parametric, non-parametric);
f) understand and apply ANOVA (1-way, 2-way);
g) understand and apply regression analysis (simple, multiple, with dummy variables and non-linearities), and to test the assumptions and residuals.

**Inhoud vak**
In the course ‘Statistics’ the basic skills in statistical thinking and working will be treated. Such skills are essentials to solving problems related to, for instance, marketing (discovering patterns in consumer profiles), and finance (analyzing trends in time series).

**Onderwijsvorm**
The course consists of 18 sessions over a period of six weeks. Each session takes 2 hours, and will be a mix of lectures with the purpose of exposing the subject matter, and instruction sessions with the purpose of practicing by doing exercises.

**Toetsvorm**
The assessment consists of an exam. The exam is made up of multiple choice questions and open questions.

**Literatuur**
The course relies on the following book:
The VU-bookshop offers a special edition (ISBN 978-0-07-763271-7) with an access code for online training ("Connect access card"). Using Connect is not mandatory for this course, and it is not supported by the teachers.
Additional documents that are essential for this course will be available at the Blackboard system.