

Frankfurt School Exchange Student Information

Overview of Winter Semester 2026 MSc Modules

Master of Finance*

Please note that some combinations of courses might not be possible. These incompatibilities will be indicated on the selection platform.

Quarter Schedules courses:

Quarter 1: Academic period: 31 August – 17 October 2026

Exam Week: 19 October – 24 October 2026

Quarter 2: Academic period: 26 October – 12 December 2026

Exam Week: 14 December – 19 December 2026

Course	Quarter
Statistics & Econometrics*	1+2
Foundations of Finance	1
Macro & Monetary Economics*	1+2
Financial Statement Analysis	2
Financial Products & Modelling	2
Financial Engineering**	1
Portfolio Management	1
Portfolio Optimization in Continuous Time	2
FinTech: Innovations in Financial Technology**	2
Credit Risk	1
Debt Finance	1
Equity Finance	1
Case Studies in Investment Banking**	2
Renewable Energy Finance	2
Financing Sustainability and Transformation	1
Managing Environmental Social and Governance in Investing**	1
Restructuring & Strategic Management Control	2

*This module is scheduled across Q1 and Q2

** These courses are Block weeks and are scheduled from Monday to Saturday

Statistics & Econometrics [QUM71040]

Module Coordinator		Kind, Thilo			
Programme(s)		Master of Finance			
Term		Semester 1 Q1 and Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Compulsory Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Basic knowledge in mathematics (differential calculus, linear algebra) (Math Bootcamp), statistical methods (descriptive and inferential statistics, econometrics), and Python fundamentals (Pre-Course)			
Content		<p><u>Statistical Foundations:</u> Random variables and distributions</p> <p><u>Introduction to Econometrics</u></p> <ul style="list-style-type: none"> • Linear regression models and ordinary least squares estimation • Statistical inference and hypothesis testing • Multivariate linear regression models • Introduction to panel data analysis • Time series: introduction, inference, and forecasting • Time-varying volatility <p><u>Elements of Python</u></p> <ul style="list-style-type: none"> • Descriptive statistical analysis and data visualization • Model estimation (linear regression and time-series models) • Inference and forecasting with Python • Interpretation of results in different financial applications 			

Intended Learning Outcomes	<p><u>Knowledge</u> On successful completion of this module, students will have a thorough understanding of general statistical principles and econometric methods in finance. In particular, they will be able to:</p> <ul style="list-style-type: none"> • explain general statistical and econometric principles • critically evaluate charts, summary statistics, and regression outputs • design appropriate econometric models for financial problems <p><u>Skills</u> On successful completion of this module, students will be able to apply statistical and econometric methods to examples and cases in finance. In particular, they will be able to:</p> <ul style="list-style-type: none"> • apply basic statistical tools • demonstrate a sound level of analytical reasoning • design appropriate econometric models • interpret estimation results <p><u>Competence</u> On successful completion of this module, students will be able to address selected statistical and econometric problems independently, design empirical analyses of financial data, and critically evaluate such analyses.</p>												
Forms of teaching, methods and support	The concepts covered in class are illustrated through additional exercises and case studies that include both a theoretical component and Python-based applications.												
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Midterm exam</td> <td>60 min</td> <td>50</td> <td>Exam week Q1</td> </tr> <tr> <td>Final exam</td> <td>70 min</td> <td>70</td> <td>Exam week Q2</td> </tr> </tbody> </table> <p><u>Midterm Exam Requirements</u> The midterm exam covers all lecture content taught up to the date of the exam. Students are expected to apply the methods covered in class as well as the Python coding skills acquired through the lectures and tutorials. It is a written, open-notes, open-book exam. A non-programmable calculator is permitted.</p> <p><u>Final Exam Requirements</u> The exam covers the full content of the lectures and tutorials. It is a written, open-notes, open-book exam. A non-programmable calculator is permitted.</p>	Type of examination	Duration or length	Performance Points	Due date or date of exam	Midterm exam	60 min	50	Exam week Q1	Final exam	70 min	70	Exam week Q2
Type of examination	Duration or length	Performance Points	Due date or date of exam										
Midterm exam	60 min	50	Exam week Q1										
Final exam	70 min	70	Exam week Q2										
Recommended Literature	<ul style="list-style-type: none"> • Brooks (2019): Introductory Econometrics for Finance, Lecture Notes • Additional material will be distributed in the course 												

Module Structure	Since experience shows that the mathematical and statistical skills of students who specialise in economics and finance differ substantially because of different backgrounds, this module is supposed to provide a common ground for all of them as a starting platform.
Usability in other Modules/Programmes	Subsequent modules, including Market Risk Modelling, Portfolio Management, and most importantly, Master Thesis
Last Approval Date	2026/04/02

Foundations of Finance [FIN71047]

Module Coordinator		Sangiorgi, Francesco			
Programme(s)		Master of Finance			
Term		Semester 1 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Compulsory Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Bachelor Degree			
Content		<p>This course is intended to provide a market-oriented framework for analyzing the major types of financial decisions made by corporations. Lectures and readings will provide an introduction to present value techniques, capital budgeting principles and problems, asset valuation, the operation and efficiency of financial markets, and the financial decisions of firms. Throughout the class, we will solve problems to enhance our understanding of the covered topics.</p> <p>Topics:</p> <ul style="list-style-type: none"> • Time value of money and the Net Present Value rule • Interest rates and bond valuation • Measuring risk, diversification, mean-variance analysis • CAPM and multifactor models • Stock valuation • Market efficiency • Capital budgeting techniques • Capital structure • Payout policy 			

Intended Learning Outcomes	<p>Knowledge: On successful completion of this module, students will have a thorough comprehension of i) the functioning of asset markets and the fundamental tools of asset valuation, and ii) the analysis of the main capital structure and investment decisions made by corporations. They will be able to:</p> <ul style="list-style-type: none"> • Explain the nature and role of different financial markets • Describe the importance of risk and return in financial decision making • Discuss the impact of financial market frictions on the financing decisions of firms <p>Skills: On successful completion of this module, students will acquire the theoretical foundations and analytical tools necessary for financial decision making and valuation, i.e. they can:</p> <ul style="list-style-type: none"> • Apply key financial concepts to value financial securities • Implement valuation techniques for capital budgeting purposes • Evaluate the impact of financing decisions on firm value <p>Competence: On successful completion of this module, students will understand the key concepts of modern asset pricing and corporate finance theory and will be able to apply them to practice. In particular, they can:</p> <ul style="list-style-type: none"> • Apply asset pricing and corporate finance theory to solve problems that investors and firms typically face • Synthesize and critically evaluate information for sound financial decision making • Analyze and interpret data correctly to select value-enhancing projects 								
Forms of teaching, methods and support	Lectures and problem sets								
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Written exam</td> <td>120 min</td> <td>120</td> <td>Exam week</td> </tr> </tbody> </table>	Type of examination	Duration or length	Performance Points	Due date or date of exam	Written exam	120 min	120	Exam week
Type of examination	Duration or length	Performance Points	Due date or date of exam						
Written exam	120 min	120	Exam week						
Recommended Literature	<ul style="list-style-type: none"> • Berk and DeMarzo, Corporate Finance, 2014, 3rd ed., Pearson • Bodie, Kane and Marcus, Investments, 2014, 10th ed., McGraw-Hill 								
Module Structure	11 classes including lectures and problem sets corrections, plus additional tutorials with the teaching assistant of the course.								
Usability in other Modules/Programmes	Financial Products and Modeling; Corporate Finance and Valuation.								
Last Approval Date	2026/04/15								

Macro- & Monetary Economics [ECO71022]

Module Coordinator		Winkler, Adalbert			
Programme(s)		Master of Finance			
Term		Semester 1 Q1 and Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Compulsory Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Bachelor Degree			
Content		<p>I Macroeconomics with microeconomic foundations – The Neoclassical Model</p> <p>I.1 Methodological approach I.2 The labour market I.3 The capital market I.4 A real intertemporal model with investment I.5 The money market I.6 The complete neoclassical model</p> <p>II Keynesian Macroeconomics</p> <p>II.1 Methodological approach II.2 The aggregate supply curve with sticky nominal wages II.3 Deriving the aggregate demand curve from the IS and the LM curve II.4 The complete Keynesian sticky wage model</p> <p>III Monetary Economics</p> <p>III.1 The money supply process, credit, investment and saving III.2. The price stability mandate and the Philipps curve III.3 Conventional monetary policy and monetary policy strategies III.4 Unconventional monetary policy III.5 Current topics in monetary policy (and Box: Monetary economics in an open economy, if time permits)</p>			

<p>Intended Learning Outcomes</p>	<p><i>Knowledge:</i> On successful completion of this module, students will have a thorough comprehension of the major models of macroeconomic and monetary theory, i.e. they can:</p> <ul style="list-style-type: none"> • Explain the working of labor, goods, capital and money markets within the respective theories • Compare and contrast theories with regard to interdependence / independence of markets, the neutrality of money, wage and price stickiness and macroeconomic policies, notably monetary policy • Explain the macroeconomic policy approaches with regard to stabilizing the price level and employment. <p><i>Skills:</i> On successful completion of this module, students will have the proven ability to apply advanced knowledge to macroeconomic and monetary policy making, i.e. they can:</p> <ul style="list-style-type: none"> • Analyse the application of monetary policy instruments in different economic settings, i.e. a financial crisis, negative supply shocks etc.. • Assess and appraise macroeconomic, notably monetary policy, as conducted in mature market economies • Demonstrate effective skills in comprehension of macroeconomic modelling <p><i>Competence:</i> On successful completion of this module, students can take responsibility to transfer these models when assessing real world macroeconomic developments and policy decisions such as oil price shocks, financial shocks and crises, changes in the fiscal balance, changes in interest rates and central bank balance sheets.</p>															
<p>Forms of teaching, methods and support</p>	<p>Interactive Lecture</p>															
<p>Type of Assessment(s) and performance</p>	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Written examination (Midterm exam)</td> <td>48 min</td> <td>48</td> <td>Exam week after the first quarter</td> </tr> <tr> <td>Written examination (Final exam)</td> <td>72 min</td> <td>72</td> <td>Exam week after the second quarter</td> </tr> </tbody> </table>				Type of examination	Duration or length	Performance Points	Due date or date of exam	Written examination (Midterm exam)	48 min	48	Exam week after the first quarter	Written examination (Final exam)	72 min	72	Exam week after the second quarter
Type of examination	Duration or length	Performance Points	Due date or date of exam													
Written examination (Midterm exam)	48 min	48	Exam week after the first quarter													
Written examination (Final exam)	72 min	72	Exam week after the second quarter													

Recommended Literature	<p>I Macroeconomics with microeconomic foundations – The Neoclassical model</p> <ul style="list-style-type: none"> • Williamson, S. (2018), Macroeconomics, 6th edition, Global edition, https://ebookcentral.proquest.com/lib/franksfm/reader.action?docID=5833549&ppg=22 Chapter 3: Business Cycle Measurement, pp. 90 – 116, Chapter 4: Consumer and Firm Behavior: The Work-Leisure Decision and Profit Maximization, pp. 118 – 161, Chapter 9: A Two-Period Model: The Consumption-Savings Decision and Credit Markets, pp. 326 – 370 (most importantly until page 352), Chapter 11: A Real Intertemporal Model with Investment, 399 – 460 (most importantly until page 446), Chapter 12: Money, Banking, Prices and Monetary Policy, 462 – 497, Chapter 13: Business Cycle Models with Flexible Prices and Wages, 498 – 509 <p>Bofinger, P (2001), Monetary Policy (https://ebookcentral.proquest.com/lib/franksfm/reader.action?docID=1037319&ppg=24) Chapter 1, pp. 3 – 6, 11 – 15, Chapter 2, pp. 20 – 24, 28 – 31, Chapter 3, p. 48 – 53</p> <p>II Keynesian Macroeconomics</p> <ul style="list-style-type: none"> • Williamson, S. (2008), Macroeconomics, 3rd (!) ed., Pearson: Boston et al., pp. 441 – 474 (sections II.2-II.5 (excluding Annex)) • Bofinger, P (2001), Monetary Policy (https://ebookcentral.proquest.com/lib/franksfm/reader.action?docID=1037319&ppg=24): Chapter 2, pp. 24 - 38 <p>III Monetary Economics</p> <ul style="list-style-type: none"> • Bofinger, P (2001), Monetary Policy (https://ebookcentral.proquest.com/lib/franksfm/reader.action?docID=1037319&ppg=24) Chapter 2, pp. 24-38, Chapter 7, pp. 174-202, Chapter 8, pp. 248-274 • Deutsche Bundesbank (2017), The role of banks, non-banks and the central bank in the money creation process, Monthly Report, April, 13-33 • Jakab, Z., Kumhof, M. (2015), Banks are not intermediaries of loanable funds—facts, theory and evidence, Bank of England Staff Working Paper No. 529
Module Structure	I Macroeconomics with microeconomic foundations – The neoclassical model II Keynesian macroeconomics III Monetary economics
Usability in other Modules/Programmes	Subsequent modules, e.g. Financial Markets and Institutions
Last Approval Date	2026/04/09

Financial Statement Analysis [ACC71025]

Module Coordinator		Liao, Yifei			
Programme(s)		Master of Finance			
Term		Semester 1 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Compulsory Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		None			
Content		<ul style="list-style-type: none"> • Understanding financial statements • Ratio analysis • Analyzing profitability • Accounting quality • Credit risk analysis • Forecasting • Applying AI to Financial Statement Analysis 			

<p>Intended Learning Outcomes</p>	<p>Knowledge</p> <ul style="list-style-type: none"> • Explain the core principles of financial accounting and describe how the income statement, balance sheet, and cash flow statement convey financial information • Understand how managerial incentives, accounting choices, and disclosure strategies affect reported financial position and earnings <p>Skills</p> <ul style="list-style-type: none"> • Compute and interpret financial ratios to assess a firm's liquidity, solvency, profitability, and efficiency • Evaluate accounting quality and detect potential earnings management or red flags in financial reporting • Conduct forward-looking financial forecasting to support valuation and decision-making <p>Competence</p> <ul style="list-style-type: none"> • Integrate accounting, finance, and strategic insights to evaluate a firm's financial health in real-world settings, including equity investment and credit analysis • Communicate financial insights effectively to diverse stakeholders and exercise professional judgment in interpreting financial information • Recognize how artificial intelligence and data analytics can enhance and critically assess financial statement analysis
<p>Forms of teaching, methods and support</p>	<p>Lectures, exercises, and case study discussions</p>

Type of Assessment(s) and performance	Type of Examination	Duaration or length	Performance Points	Due date or date of exam
	Project works	Throughout the entire course	60	end of module
	Written Examination	60 minutes	60	exam week
	<p>Project Work This ongoing assignment spans the entire course and culminates at the end of the module. Students work in groups of 4–5 to conduct an in-depth financial statement analysis of a real-world company and its three competitors, integrating accounting, finance, and strategic insights. As a key component, students are expected to incorporate the knowledge and tools introduced in the concluding module on Applying AI to Financial Statement Analysis, demonstrating how AI-driven techniques can enhance the depth and critical interpretation of their analysis. This component primarily assesses the Skills and Competence learning outcomes, evaluating students’ ability to apply analytical frameworks, exercise professional judgment, and communicate financial insights effectively.</p> <p>Written Examination This formal, timed exam is held during the official examination week. It assesses students’ individual understanding of core theoretical concepts and their ability to apply analytical frameworks to evaluate a company’s financial condition, performance, and risk. The exam covers topics such as ratio analysis, accounting quality assessment, and forecasting. This component primarily assesses the Knowledge and Skills learning outcomes, ensuring students can demonstrate both conceptual understanding and practical application independently.</p> <p>In-Class Practice & Homework Both in-class practice exercises and optional homework assignments are provided throughout the course to reinforce key concepts and support exam preparation. Neither carries any grade weight, but students are strongly encouraged to engage with both, as consistent participation is the most effective way to prepare for the project and written examination. These activities are particularly relevant to the Skills learning outcomes, helping students build analytical capabilities incrementally throughout the module.</p>			
Recommended Literature	<p>Extensively used in the course The primary learning resources for this course are the lecture slides, financial statements of companies, and analytical case questions based on these statements, all of which are uploaded to Canvas.</p> <p>Useful as an additional reference Wahlen, J. M., Baginski, S. P., & Bradshaw, M. T. (2022). Financial Reporting, Financial Statement Analysis, and Valuation (10th ed.). Cengage Learning.</p>			

Module Structure	Each class session will follow a structured format combining interactive lectures with case study discussions. Classes typically begin with an introduction to the day's key topic, where foundational concepts and frameworks are presented. This is followed by the application of those concepts through real-world case studies, hands-on exercises, and guided discussions. Active student participation is encouraged to deepen understanding and facilitate practical insights into financial statement analysis.
Usability in other Modules/Programmes	Advanced corporate valuation
Last Approval Date	2026/04/20

Financial Products & Modelling [FIN71048]

Module Coordinator		Vilkov, Grigory			
Programme(s)		Master of Finance			
Term		Semester 1 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Compulsory Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Previous Core Modules, Python basics			
Content		Financial Markets <ul style="list-style-type: none"> • Trading, Instruments, Participants, and Mechanics • Regulatory Framework Introduction to Financial Products <ul style="list-style-type: none"> • Discrete-Time Valuation Framework • Equity Derivatives • Valuation of Fixed Income Instruments • Introduction to Interest Rate Derivatives: Swaps Introduction to Modeling with AI: AI Tools, Modeling and Programming with Python <ul style="list-style-type: none"> • Using modern AI tools to obtain data and perform necessary analysis • Introduction agent-based frameworks in Python environment • Pricing / linear algebra • Solving a course case study with Python using modern AI tools 			

<p>Intended Learning Outcomes</p>	<p>Knowledge: On completion of this module, students will demonstrate substantial knowledge of financial products and modeling in a modern, data-driven environment. In particular, they will be able to:</p> <ul style="list-style-type: none"> • Describe the organization and functionality of financial markets and their regulatory framework, including the role of quantitative and AI-supported methods • Identify the most relevant financial instruments for a specified purpose, supported by analytical and AI-based tools <p>Skills: On successful completion of this module, students will be able to apply learned methods to financial products and modeling within a discrete pricing framework. Specifically, they will:</p> <ul style="list-style-type: none"> • Analyze financial markets and evaluate financial instruments of varying complexity using Python and modern data analysis tools • Develop solutions to financial risk problems and implement them using appropriate instruments, supported by quantitative methods and AI-assisted techniques where relevant • Evaluate standard and non-standard financial instruments both theoretically and computationally in Python • Write functional Python programs for pricing, trading, and risk management purposes, with awareness of how AI tools can support automation and analysis <p>Competence: On successful completion of this module, students will have acquired the competence to:</p> <ul style="list-style-type: none"> • Evaluate and manage derivative financial instruments using both classical quantitative methods and selected AI-supported approaches • Assume professional roles in financial risk management, investment banking, asset management, or corporate finance, with the ability to apply modern analytical and computational tools in practice
<p>Forms of teaching, methods and support</p>	<p>Lectures, case studies, and individual home assignments</p>

Type of Assessment(s) and performance	Type of examination	Duration or length	Performance Points	Due date or date of exam
	Written Exam	60 minutes	60	Exam week
	Homework Assignment 1	1 to 4 hours, depending on the competency level	9	During the module, about weekly
	Homework Assignment 2	1 to 4 hours, depending on the competency level	9	During the module, about weekly
	Homework Assignment 3	1 to 4 hours, depending on the competency level	12	During the module, about weekly
	Case study	2 hours each week, 15-minute presentation	30	During the module, presentations at the end
	<p>Assignments allow for learning efficient use of programming for modeling and solving tasks related to financial modeling. A case study teaches how to apply theoretical concepts to real problems, solve a complex task, and present the results. The exam tests the theoretical knowledge acquired in the course and the efficient application of modeling skills to solving practical examples.</p>			
Recommended Literature	<p><i>Extensively used in the course</i></p> <ul style="list-style-type: none"> Hull, John C : Options, Futures and Other Derivatives, 10th or later ed., Pearson Online tutorials for Python (DataCamp, etc.) <p><i>Useful as an additional reference</i></p> <ul style="list-style-type: none"> Sundaram, Rangarajan K. and Sanjiv Das, Derivatives: Principles and Practice, McGraw Hill Book 2010 			

Module Structure	<p>This module covers the most important financial instruments, including stocks, bonds, and derivatives such as swaps, futures, and options. For each instrument, we examine intermediate and final cash flows, introduce basic valuation methods, and discuss practical applications. The module also addresses securities trading rules and the organization and functioning of exchanges and over-the-counter markets.</p> <p>Classes combine theoretical discussion with practical implementation. While Python remains a key tool, the course increasingly emphasizes AI-assisted analysis and modeling, including the use of modern tools and agent-based workflows. Students are expected to invest significant time in applying Python together with AI support to solve homework, exam, and financial modeling problems.</p>
Usability in other Modules/Programmes	Master thesis, and multiple individual courses, including Risk Management, Corporate Finance and Valuation, Market Risk Modeling, Derivatives Analysis, Financial Engineering, Credit Risk, and Portfolio Management.
Last Approval Date	2026/04/02

Financial Engineering [FIN74948]

Module Coordinator		Heidorn, Thomas			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Derivative Analysis			
Content		<ol style="list-style-type: none"> 1. Understanding Interest Rate Risk <ol style="list-style-type: none"> 1.1 Forecast 1.2 Value at Risk for Rates 1.3 Cash Flow at Risk 1.4 Interest Rate Swaps 2. Pricing and Risk Analysis <ol style="list-style-type: none"> 2.1 Reverse/Leverage Floater 2.2 Callable Bond 2.3 Collared Floater 2.4 Interest Rate Swap with Euribor in Arrears 3. Structuring a Financial Package <ol style="list-style-type: none"> 3.1 Individual Pension Plan 3.2 Pension Plan from a Life Insurance 3.3 Foreign Exchange Management for a Corporate 3.4 Kerosine Hedge for an Airline 			

Intended Learning Outcomes	<p>Knowledge: On successful completion of this module, students will have a thorough comprehension of the major concepts, approaches and techniques in Financial Engineering i.e. they can:</p> <ul style="list-style-type: none"> • Evaluate complex financial products • Understand the arbitrage relations in the financial market • Create solutions for individual financial situations <p>Skills: On successful completion of this module, students will have the proven ability to apply advanced knowledge to efficiently manage financial positions, i.e. they can</p> <ul style="list-style-type: none"> • Analyze the risk/return relationship of the products • Communicate the solution to the customer • Work in international groups under pressure <p>Competence: On successful completion of this module, students can take responsibility to transfer these concepts to typical leadership and management situations in banks, such as Treasury, Sales and Trading.</p>								
Forms of teaching, methods and support	Transfer of the elements of investment banking under time pressure with the help of group case studies and external talks.								
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Presentations</td> <td>120 min</td> <td>120</td> <td>During the module</td> </tr> </tbody> </table> <p>Presentations will be based on case studies.</p>	Type of examination	Duration or length	Performance Points	Due date or date of exam	Presentations	120 min	120	During the module
Type of examination	Duration or length	Performance Points	Due date or date of exam						
Presentations	120 min	120	During the module						
Recommended Literature	<ul style="list-style-type: none"> • John C. Hull: Options, Futures and other Derivatives, Prentice Hall International 8th Edition 2012 • Hans R. Stoll / Robert E. Whaley: Futures and Options, South Western Publishing Cincinnati 1993 • Heidorn Thomas: Finanzmathematik in der Bankenpraxis, Gabler 6. Auflage 2009 								
Module Structure	Financial engineering will take application a step further. Under strong time constraints the students will use their knowledge from the capital market concentration to prepare and present case studies. On the one hand this focuses on pricing, analysing and selling financial products to clients. On the other hand the students learn to work in international groups. Additionally special talks by market specialists on FX trading and interest rate markets give additional insight.								
Usability in other Modules/Programmes	Other modules in Capital Markets concentration								
Last Approval Date	2026/04/02								

Portfolio Management [FIN74949]

Module Coordinator		Cocoma, Paula Andrea			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Financial Products and Modeling (with introduction to programming)			

<p>Content</p>	<p>Theory & Practice of portfolio optimization</p> <ul style="list-style-type: none"> • Risk, Risk Premium, and the CAPM: Estimating expected returns, systematic risk, estimating CAPM alpha and beta • Equities in the Cross-Section: The equity market, portfolios based on stock characteristics, the Fama-French three (four) factors • Equities in the Time-Series: The Random Walk model, Market timing and predicting stock returns, Estimating volatility, time-varying volatility (ARCH and GARCH), Fama-Macbec tests • Other Asset Classes: Derivatives, Fixed Income, Alternatives, Main risk factors and importance of correlation for portfolio construction • Portfolio Choice: Optimal portfolio, limits of Mean-Variance, Black-Litterman • Portfolio Management implementation: Liquidity, Currency risks, Shrinkage, Constraints, Rebalancing • Risk Management: VaR, tail-risk, Conditional VaR, Expected Shortfall, Estimation • Portfolio Management in practice: Asset Management for individuals, Mutual Funds, ETFs, Performance Measurement, ESG investments
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<p>Intended Learning Outcomes</p>	<p>Knowledge: <u>On successful completion of this module, students will have a thorough comprehension of quantitative portfolio management, i.e. they can:</u></p> <ul style="list-style-type: none"> • Specify modern portfolio optimization tools and methods, applied to single and multiple asset classes • Outline the evolution of portfolio management from modern portfolio theory as formulated by Markowitz (1952) to risk parity modelling, benchmarking, and multi-factor modelling, which are the state of the art in the asset management industry. • Specify modern risk management and tail-risk optimization tools and methods, applied to single and multiple asset classes • Outline the evolution of portfolio risk, in particular tail-risk, management from modern risk management theory, beginning with Value-at-Risk in 1993, to risk parity modelling, dynamic tail-risk optimization and portfolio insurance models, and multi-factor modelling, which are the state of the art in the asset management industry and financial risk management <p>Skills: <u>On successful completion of this module, students will have the proven ability to apply theoretical tools in real situations, i.e. they can:</u></p> <ul style="list-style-type: none"> • Use various portfolio and risk optimization techniques in realistic situations • Evaluate risk and performance for various portfolios • Build risk optimized portfolio using modern portfolio theory (with necessary adjustments) and more advanced approaches. <p>Competence: <u>On successful completion of this module, students can transfer the acquired knowledge and methods to real life situations in organizations, i.e. they can:</u></p> <ul style="list-style-type: none"> • Research, process, and analyze market information to build efficient portfolios from multiple asset classes • Analyze portfolio performance including profitability and risk profile • Assume a responsible position in the area of financial risk management, investment banking (both sell - and buy-side), and asset management, e.g. as portfolio managers
<p>Forms of teaching, methods and support</p>	<p>Lectures, group home assignments (3 students each), in-class discussions and exercises of the practical issues in portfolio management</p>

Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Class preparation and participation</td> <td>Daily</td> <td>10</td> <td>During the module</td> </tr> <tr> <td>Group home assignment</td> <td>During 5 weeks</td> <td>40</td> <td>During the module</td> </tr> <tr> <td>Quiz</td> <td>30 minutes</td> <td>20</td> <td>To be announced</td> </tr> <tr> <td>Written Exam</td> <td>50 minutes</td> <td>50</td> <td>Exam week</td> </tr> </tbody> </table> <p>Competencies evaluated: critical reasoning and judgment of course material (class participation). Programming skill and data management (Problem Sets). Discerning of competing theoretical knowledge (Quiz). Theoretical knowledge and argumentative skills (Final Exam)</p>	Type of examination	Duration or length	Performance Points	Due date or date of exam	Class preparation and participation	Daily	10	During the module	Group home assignment	During 5 weeks	40	During the module	Quiz	30 minutes	20	To be announced	Written Exam	50 minutes	50	Exam week
Type of examination	Duration or length	Performance Points	Due date or date of exam																		
Class preparation and participation	Daily	10	During the module																		
Group home assignment	During 5 weeks	40	During the module																		
Quiz	30 minutes	20	To be announced																		
Written Exam	50 minutes	50	Exam week																		
Recommended Literature	<p><i>Extensively used in the course:</i></p> <p>Asset Allocation From Theory to Practice and Beyond, By William Kinlaw, Mark P. Kritzman, David Turkington (2021)</p> <p>Additional material posted on Canvas</p>																				
Module Structure	<p>This module starts with the extensive discussion of the theoretical and computational tools used in the portfolio analysis and in risk management. Theoretical lectures will be supported by group home assignments/ in-class quizzes. In these home assignments the students will apply the covered theoretical tools to a number of real portfolio analysis problems, also introduced in class in the form of lectures.</p> <p>Extending the portfolio risk management perspective in the first half we will have a deeper emphasis on portfolio optimization methods such as risk parity and multi-factor investing. The second half focuses on portfolio tail risk, which discusses in detail Value-at-Risk and its extensions of tail-risk management for portfolio risk optimization, followed by micro risk management using risk factors.</p>																				
Usability in other Modules/Programmes	<p>Other modules in Capital Markets and Risk concentrations.</p>																				
Last Approval Date	<p>2026/04/02</p>																				

**Portfolio Optimization in Continuous Time
[FIN74957]**

Module Coordinator		Sangiorgi, Francesco			
Programme(s)		Master of Finance			
Term		Semester 3 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Statistics and Econometrics; Capital Markets or Risk Management concentration			
Content		<p>This course covers modern portfolio construction, from classical mean-variance optimization to AI-driven methods. Starting from the fundamental problem of estimation error, students learn why textbook approaches fail out-of-sample and how increasingly sophisticated tools address this challenge—from shrinkage estimators and Bayesian methods to machine learning forecasts, LLM-generated views, and reinforcement learning agents. The emphasis throughout is practical: understanding when each method adds value and how to integrate AI tools with traditional portfolio frameworks.</p> <p>Topics Covered</p> <ul style="list-style-type: none"> • Estimation error and out-of-sample portfolio performance • Shrinkage estimation and robust optimization • Factor models for risk decomposition and portfolio construction • Black-Litterman with LLM-enhanced views • Machine learning for return prediction • Deep reinforcement learning for dynamic portfolio allocation 			

Intended Learning Outcomes	<p>Knowledge Students will:</p> <ul style="list-style-type: none"> • Master advanced portfolio theory, including Bayesian and robust approaches to portfolio construction. • Understand and apply factor models in portfolio construction and risk management contexts. • Gain hands-on experience with modern AI tools in finance, including LLM-based prediction and reinforcement learning. <p>Skills Students will be able to:</p> <ul style="list-style-type: none"> • Build and evaluate risk-aware portfolio allocations that incorporate estimation uncertainty, model risk, and forward-looking signals. • Integrate shrinkage estimators, Bayesian / Black-Litterman priors, and LLM-generated views within a coherent portfolio-construction workflow. • Program, back-test, and document portfolio strategies and risk analytics in Python to a professional, reproducible standard. <p>Competence Graduates of this course will be equipped to:</p> <ul style="list-style-type: none"> • Work in portfolio management, risk management, and quant roles • Assess uncertainty and design risk-aware strategies • Integrate AI tools with traditional methods for investment decision-making 																
Forms of teaching, methods and support	Lecture, discussion, computer simulations, case studies and questions																
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Assignment #1</td> <td>Two weeks to complete</td> <td>30</td> <td>During module</td> </tr> <tr> <td>Group Project + Presentation</td> <td>Three weeks to complete</td> <td>50</td> <td>During module</td> </tr> <tr> <td>Final Exam</td> <td>40 minutes</td> <td>40</td> <td>Exam week</td> </tr> </tbody> </table> <p>Assignment #1 assesses foundational Skills: students implement core portfolio techniques in Python notebooks and interpret results. Students may use AI coding assistants.</p> <p>Group Project + Presentation assesses Skills, Competence, and Knowledge integration. Teams work on an open-ended project. The deliverable includes a Jupyter notebook and a group presentation with Q&A. All team members must be prepared to answer questions on any part of the project. Details on format and grading criteria will be provided in class.</p> <p>Final Exam targets Knowledge outcomes through short analytical questions (no coding).</p>	Type of examination	Duration or length	Performance points	Due date or date of exam	Assignment #1	Two weeks to complete	30	During module	Group Project + Presentation	Three weeks to complete	50	During module	Final Exam	40 minutes	40	Exam week
Type of examination	Duration or length	Performance points	Due date or date of exam														
Assignment #1	Two weeks to complete	30	During module														
Group Project + Presentation	Three weeks to complete	50	During module														
Final Exam	40 minutes	40	Exam week														

Recommended Literature	<p>The course integrates interactive lectures and practical assignments. Lecture notes are mainly used and the following books should be used as references. Additional references will be provided during the course.</p> <ol style="list-style-type: none"> 1. Asset Management: A Systematic Approach to Factor Investing, by Andrew Ang 2. Investing Amid Low Expected Returns: Making the Most When Markets Offer the Least, by Antti Ilmanen 3. Asset Allocation: From Theory to Practice and Beyond, by William Kinlaw, Mark P. Kritzman, and David Turkington 4. Reinforcement Learning: An Introduction, by Richard S. Sutton and Andrew G. Barto (freely available online)
Module Structure	<p>The focus of the module is to understand and implement modern portfolio construction techniques in light of estimation uncertainty and predictive information. The lectures and supplementary materials will help students master the integration of theory and empirical practice, including the use of advanced tools such as Bayesian methods, machine learning, and deep reinforcement learning. A strong emphasis is placed on hands-on financial data analysis using Python, with applications to asset allocation, AI-enhanced forecasting, and dynamic portfolio strategies.</p>
Usability in other Modules/Programmes	<p>AI & New Frontier, Applying Artificial Intelligence in Business, Practical Data Science and Artificial Intelligence in Python, FX Options & Structured Products, Quantitative Trading and Analysis with Python, Master Thesis</p>
Last Approval Date	<p>2026/04/15</p>

**FinTech - Innovations in Financial
Technology [FIN74958]**

Module Coordinator		Schoenleber, Lorenzo			
Programme(s)		Master of Finance			
Term		Semester 3 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Basic understanding of business administration and financial management.			
Content		<p>This module offers an engaging introduction to the dynamic field of fintech, where technological innovation is transforming the design and delivery of financial services. New business models, applications, processes, and products are reshaping financial markets and institutions, while redefining how financial services are created, distributed, and consumed.</p> <p>Aimed at students seeking to understand the frontier of financial innovation, the module equips participants with a comprehensive perspective on the integration of technology and finance. It explores key technological developments that are currently redefining the sector and examines their capacity to enhance efficiency, reduce informational frictions, and generate network-driven value.</p> <p>Students will develop an understanding of the complex interplay between finance and technology, and will be encouraged to reflect critically on the opportunities and challenges arising from these transformations. The module concludes by examining decentralized finance (DeFi) as an increasingly important area within fintech, with particular emphasis on its potential to introduce new forms of financial intermediation, coordination, and market organization.</p>			

Intended Learning Outcomes

This course prepares you to excel in the swiftly evolving landscape of financial technology. By engaging with this curriculum, you will achieve a deep and practical understanding of several critical dimensions:

1. **Innovation and Application:** You will be able to integrate cutting-edge fintech technologies and analytics into groundbreaking business models. You will drive market trends through strategic innovation.
2. **Foundational Knowledge:** Clearly articulate and critically evaluate the fundamental pillars of fintech based on rigorous scholarly research.
3. **Sector-Specific Technologies:** Navigate the application of fintech across diverse sectors, including banking, wealth management, securities trading, money and payment systems, and distributed ledgers.
4. **Ecosystem Understanding:** Analyse and detail the intricate interplay and synergies among the various stakeholders and technologies that define the vibrant fintech ecosystem, including the protocols, users, governance structures, and infrastructures that underpin decentralized finance (DeFi).
5. **Critically Assess Risks:** Upon completing this module, you will be thoroughly equipped with both the theoretical frameworks and the practical skills necessary to critically assess risks in financial technology and, in particular, in DeFi and the broader crypto industry.

By mastering this module, you will be equipped not only with theoretical knowledge but also practical skills to build a path in the transformative field of fintech, ready to face its challenges and capitalize on its opportunities.

Forms of teaching,
methods and support

This module is designed as an interactive learning experience that demands active engagement and a commitment to excellence from each participant. Attendance is compulsory to foster a cohesive learning environment.

Interactive Lectures: Be prepared to engage in lectures that require not only attention but active participation. Your insights and inquiries will drive deeper exploration of key topics in fintech and decentralized finance.

Collaborative Assignments: Engage in team-based projects that culminate in presentations, allowing you to harness collective intelligence and refine your communication skills while applying course concepts to contemporary developments in DeFi.

Peer Review: Develop critical analytical skills by engaging in structured peer reviews of your classmates' work, providing and receiving constructive feedback.

Dynamic Participation: Expect to demonstrate your engagement through a variety of in-class activities. These will include posing questions, participating in discussions, sharing relevant personal experiences, and responding to both spontaneous and structured quizzes.

This module structure is designed to ensure that you not only absorb information but also apply it, preparing you to navigate and influence the fast-evolving domains of fintech and decentralized finance.

Type of Assessment(s) and performance	<p>This module rigorously assesses your engagement and mastery of the subject through a structured and comprehensive evaluation system.</p> <table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance points</th> <th></th> </tr> </thead> <tbody> <tr> <td>Class Participation</td> <td>Ongoing throughout the module</td> <td>30</td> <td></td> </tr> <tr> <td>Written examination</td> <td>90 minutes</td> <td>90</td> <td></td> </tr> </tbody> </table> <p>Assessment Components and Criteria</p> <ol style="list-style-type: none"> Class Participation: Daily participation is crucial and will be evaluated continuously. Written examination: The course culminates in a closed-book final exam that evaluates your comprehensive understanding and ability to apply fintech knowledge. This exam requires you to demonstrate mastery of critical concepts and the effective integration of information from diverse sources. <p>Competencies Evaluated</p> <p>Class Participation: Reflection and introspection, effective communication, and complex reasoning.</p> <p>Written examination: Knowledge application, strategic analysis, and synthesis of information within the FinTech domain. These assessments are designed to challenge you and refine your professional capabilities, ensuring you are well-prepared to contribute innovatively in the fintech industry.</p>	Type of examination	Duration or length	Performance points		Class Participation	Ongoing throughout the module	30		Written examination	90 minutes	90	
Type of examination	Duration or length	Performance points											
Class Participation	Ongoing throughout the module	30											
Written examination	90 minutes	90											
Recommended Literature	Compulsory literature will be communicated prior to the course to include recent developments in the literature.												

Module Structure	<ul style="list-style-type: none"> • The fundamental frictions of finance. • The rise of fintech and the broader digital transformation of financial services. • Methods and foundations of distributed ledger technologies, including cryptography, data structures, and consensus protocols. • The core architecture of decentralized finance (DeFi) includes smart contracts and blockchain-based protocols. • Stablecoins and digital currencies as emerging digital financial infrastructure. • Tokenization and its implications for financial markets and business models. • Major DeFi applications include decentralized trading, lending, and asset management. • Risks, governance, and incentive mechanisms in DeFi ecosystems.
Usability in other Modules/Programmes	Elective "Blockchain and Digital Assets" and Thesis.
Last Approval Date	2026/03/31

Credit Risk [FIN74950]

Module Coordinator		Irle, Sebastian			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		None.			
Content		<ol style="list-style-type: none"> 1. Introduction to credit risk modeling 2. Portfolio default risk 3. Migration and default risk in the trading book 4. Credit Default Swaps (CDS) and estimation of default probabilities with CDS spreads 			

<p>Intended Learning Outcomes</p>	<p>Knowledge: On successful completion of this module, students will have a thorough comprehension of loan portfolio default risk models and some structured products, i.e. they can:</p> <ul style="list-style-type: none"> Specify statistical approaches for analysing the dependency structure between loans; Review modeling approaches for risk management, particularly involving KMV-type models. <p>Skills: On successful completion of this module, students will have the proven ability to apply statistical methods to estimate the risk of financial losses due to rating migrations and defaults, i.e. they can:</p> <ul style="list-style-type: none"> Estimate probabilities of default from CDS spreads; Apply risk modeling techniques to compute the VaR of a loan portfolio model; Apply risk modeling techniques to compute the VaR of trading book positions with specific interest rate risk, taking into account migration and default risks only. <p>Competence: On successful completion of this module, students can take responsibility to transfer these methods to situations in organisations, i.e. they can:</p> <ul style="list-style-type: none"> Appreciate the importance of quantitative risk management; Discuss any advanced model for migration and default risk with quantitative risk modelers; Discuss fundamental approaches for pricing structured products with quantitative risk modelers; Assess and judge quantitative loan portfolio models in the context of bankwide risk management; Act as an interface between risk modelers and risk managers. 											
<p>Forms of teaching, methods and support</p>	<p>Lecture, script, coding examples, group project.</p>											
<p>Type of Assessment(s) and performance</p>	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Project work</td> <td>30 min</td> <td>120</td> <td>During the module</td> </tr> </tbody> </table> <p>The project work consists of case study presentations in groups.</p>				Type of examination	Duration or length	Performance Points	Due date or date of exam	Project work	30 min	120	During the module
Type of examination	Duration or length	Performance Points	Due date or date of exam									
Project work	30 min	120	During the module									
<p>Recommended Literature</p>	<ul style="list-style-type: none"> Hull, E.G.: Options, Futures & Other Derivatives, Prentice-Hall International, London 2000 											
<p>Module Structure</p>	<p>Lecture and group projects.</p>											
<p>Usability in other Modules/Programmes</p>	<p>Applying Artificial Intelligence in Business, Quantitative Trading and Analysis with Python, Alternative Investments, Blockchain, Resource Allocation Strategy</p>											
<p>Last Approval Date</p>	<p>2026/04/02</p>											

Debt Finance [FIN74954]

Module Coordinator		Steffen, Sascha			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Foundations of Finance, Corporate Finance			

<p>Content</p>	<p>This course covers the economics of corporate debt financing, from traditional bank lending and public bond markets to the rapidly growing private credit markets. The focus is on understanding how firms raise debt capital, how lenders and investors evaluate and structure credit, and how these markets function in a European context.</p> <p>Core topics include:</p> <ul style="list-style-type: none"> • Corporate debt instruments, capital structures, and subordination mechanics • Credit analysis, underwriting, and investment thesis development • Covenant design, monitoring, and contract enforcement • Private credit markets: direct lending, unitranche, and fund structures • The role of nonbank financial intermediation in European capital markets • Leveraged loan markets and CLO structures • Distress, restructuring, and liability management (European frameworks) <p><i>The course draws on recent academic research and emphasises the institutional features of European debt markets, including differences to US market structures.</i></p>
<p>Intended Learning Outcomes</p>	<p>Upon completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Analyse corporate capital structures and evaluate the risk-return profile of debt instruments across the seniority stack • Conduct credit analysis using cash flow-based frameworks and draft a structured credit investment memorandum • Evaluate covenant packages and understand their economic function in monitoring and renegotiation • Describe the structure and economics of private credit markets, including direct lending and fund-level financing • Assess the systemic role of nonbank financial intermediation and its implications for financial stability • Apply analytical frameworks to European debt markets and identify key institutional differences relative to US markets <p>This course has two overarching learning objectives:</p> <ul style="list-style-type: none"> • Develop professional-level credit analysis skills applicable to careers in credit investing, lending, and financial advisory • Build a rigorous understanding of how debt markets function, with emphasis on current structural shifts in financial intermediation

<p>Forms of teaching, methods and support</p>	<p>The course is highly interactive and built around case studies and structured exercises in almost every session. Each four-hour session consists of two 90-minute blocks separated by a break. Depending on the topic, blocks alternate between conceptual input (theory, institutional context, research) and applied work (case discussion, exercises, practitioner perspectives).</p> <p>Students are expected to prepare assigned materials before each session. I will cold-call students to ensure engagement. Cases range from short in-session exercises to longer prepared case studies based on actual European deals. Problem sets will be provided to review analytical material.</p> <p>Guest speakers from major financial institutions, direct lending platforms, and regulatory bodies will be integrated into topical sessions throughout the course.</p>															
<p>Type of Assessment(s) and performance</p>	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Written examination (midterm exam)</td> <td>50 minutes</td> <td>50</td> <td>During the module (tbd)</td> </tr> <tr> <td>Written examination (final exam)</td> <td>70 minutes</td> <td>70</td> <td>Exam week</td> </tr> </tbody> </table> <p>The midterm exam is a written exam covering approximately the first half of the course content. The final exam is comprehensive and evaluates students' overall grasp of the course material, comprising topics covered before and after the midterm.</p> <p>Both exams assess understanding of key concepts, analytical frameworks, and their application to real-world credit markets. Questions may include analytical, conceptual, and case-based components</p>				Type of examination	Duration or length	Performance points	Due date or date of exam	Written examination (midterm exam)	50 minutes	50	During the module (tbd)	Written examination (final exam)	70 minutes	70	Exam week
Type of examination	Duration or length	Performance points	Due date or date of exam													
Written examination (midterm exam)	50 minutes	50	During the module (tbd)													
Written examination (final exam)	70 minutes	70	Exam week													

<p>Recommended Literature</p>	<p><u>Required:</u></p> <p>Lecture Notes and Slides (and additional material I post throughout the class)</p> <p>Recommended:</p> <p>Gatto, Michael, The Credit Investor’s Handbook, Wiley, 2024.</p> <p>Nesbitt, Stephen L., Private Debt: Yield, Safety and the Emergence of Alternative Lending, Wiley Finance, 2023.</p> <p>Additional academic papers and policy briefs will be assigned throughout the course.</p>
<p>Module Structure</p>	<p>This course examines how non-financial firms raise debt capital and how financial intermediaries — banks, institutional investors, and private credit funds — originate, structure, and manage credit risk. We study the full spectrum of corporate debt markets: bank lending, syndicated loans, public bond markets, and the rapidly expanding private credit sector. The course takes the perspective of both the borrowing firm and the capital provider.</p> <p>We analyse the economics of debt instruments across the seniority stack, from senior secured to subordinated and payment-in-kind structures. We cover credit analysis and underwriting frameworks as practised by banks and direct lenders, covenant design and its role in monitoring and renegotiation, and the institutional architecture of leveraged loan and CLO markets. A distinguishing feature of the course is its focus on the structural shift from bank-based to nonbank financial intermediation, examining how regulatory, institutional, and market forces are reshaping how credit is provided to the real economy.</p> <p>While the primary focus is on firm-level and deal-level analysis, we also consider macroeconomic and financial stability implications, drawing on recent academic research and policy perspectives. Case studies based on actual transactions are used throughout the course.</p>
<p>Usability in other Modules/Programmes</p>	<p>Other modules in Corporate Finance Concentration</p>
<p>Last Approval Date</p>	<p>2026/04/09</p>

Equity Finance [FIN74955]

Module Coordinator		Kisseleva-Scherenberger, Katja			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Students should have completed an introductory corporate finance module covering discounted cash flow valuation, cost of capital, and basic capital structure theory. Familiarity with financial statements is assumed. No prior knowledge of venture capital or private markets is required.			

Content

Equity is the foundational financing instrument throughout a firm's entire life — from the first check written by a founder to the seasoned equity offerings of a publicly traded company. This module traces the equity fundraising process along the firm life cycle, examining how institutional arrangements, valuation methods, investor incentives, and deal structures evolve at each stage.

The module is organized around four life-cycle stages:

Stage 1 — Early-Stage Financing (Pre-Seed, Seed, and Angel)

This stage covers how nascent ventures identify and marshal resources before institutional capital becomes available. Topics include bootstrapping, friends-and-family rounds, business angels and angel networks, and convertible instruments such as convertible notes and SAFEs. Students learn how to evaluate early-stage opportunities from both the entrepreneur's and the investor's perspective, and how information asymmetry and agency problems shape early financing contracts.

Stage 2 — Venture Capital

This stage examines the institutional structure of the venture capital industry and the investment process from deal sourcing to exit. Topics include VC fund structure (LP/GP relationships, carried interest, clawbacks), investment decision-making and due diligence, startup valuation methods (venture capital method, DCF adaptations, comparables), term sheet negotiation, staged financing, anti-dilution provisions, liquidation preferences, and board governance. The role of VC in value creation beyond capital — networks, operational support, signaling — is also covered.

Stage 3 — Growth Equity, Buyouts, and Late-Stage Private Markets

As companies scale beyond early venture capital, the universe of equity financing sources expands significantly — and so does the complexity of transactions. This stage covers two interrelated tracks.

Growth equity and late-stage VC: Late-stage VC rounds and growth equity investments; secondary markets and LP stake sales; cap table complexity, down-rounds, and governance in maturing private companies; pre-IPO valuation using public-market multiples.

Buyout transactions: The economics and structure of leveraged buyouts (LBOs); buyout fund structure and LP/GP economics; sources and structuring of acquisition debt; LBO valuation and returns modeling; deal sourcing, due diligence, and value creation levers (operational improvement, financial engineering, multiple expansion); management incentives and rollover equity; exit strategies (trade sale, secondary buyout, IPO). M&A deal mechanics relevant to private equity transactions are also covered, including deal structuring, purchase price adjustments, representations and warranties, and earnouts.

Stage 4 — IPO, Public Markets, and Seasoned Equity Offerings

The final stage covers the transition from private to public equity. Topics include IPO mechanics (bookbuilding, underwriter selection, roadshows, pricing and allocation), IPO underpricing theories and empirical evidence, lock-up agreements, analyst coverage, and post-IPO governance. The module closes with seasoned equity offerings (SEOs): motivations, announcement effects, information signaling, and the strategic use of

	<p>public equity capital.</p> <p>Throughout the module, each stage is analyzed from multiple perspectives: the entrepreneur seeking capital, the investor deploying it, and the financial intermediaries structuring and pricing the transaction. Practitioners from relevant areas of the industry participate as guest speakers.</p>
<p>Intended Learning Outcomes</p>	<p>Upon completion of the module, students are able to:</p> <ul style="list-style-type: none"> • Describe the institutional landscape of equity financing across the full firm life cycle, distinguishing the roles of angels, venture capitalists, growth equity investors, buyout funds, and public market participants. • Explain how information asymmetry and agency conflicts shape the design of equity financing contracts at each life-cycle stage. • Apply key valuation methods for early- and growth-stage companies, including the venture capital method, scenario-based DCF, and public-market multiples. • Analyze term sheet provisions — including liquidation preferences, anti-dilution clauses, pro-rata rights, and board composition — and assess their economic and governance implications. • Construct and interpret an LBO valuation model, identifying the key drivers of financial returns in a buyout transaction. • Evaluate an IPO transaction, including the role of underwriters, the bookbuilding process, IPO pricing decisions, and the determinants of underpricing. • Assess the motivations and market reactions to seasoned equity offerings and interpret the empirical evidence on SEO announcement effects. • Synthesize the perspectives of multiple stakeholders — founders, investors, intermediaries — in a given financing scenario and develop a supported recommendation. • Demonstrate the ability to work under exam conditions on numerical equity finance problems, applying relevant valuation and deal-structuring tools accurately and efficiently.
<p>Forms of teaching, methods and support</p>	<p>The module is delivered as a five-day intensive course (full days). The pedagogical approach combines four elements:</p> <p>Lectures provide the conceptual and institutional framework for each life-cycle stage, with emphasis on quantitative methods including valuation, deal structuring, and return analysis.</p> <p>In-class case assignments: Students work in small groups on a structured case or analytical exercise directly connected to the day's topic, producing a written response that is submitted to the instructor at the end of the session. Assignments are completed with paper and pen to ensure active engagement, develop analytical skills under time pressure, and preclude the use of AI-assisted tools.</p> <p>Practitioner guest speakers provide first-hand industry perspective at each life-cycle stage, linking theoretical concepts to current market practice.</p> <p>Discussions are used throughout lectures to encourage critical engagement with the material.</p>

Type of Assessment(s) and performance	Type of examination	Duration	Performance Points	Due date
	In-class group assignment 1	60-90 min	12	By the end of Day 1
	In-class group assignment 2	60-90 min	12	By the end of Day 2
	In-class group assignment 3	60-90 min	12	By the end of Day 3
	In-class group assignment 4	60-90 min	12	By the end of Day 4
	In-class group assignment 5	60-90 min	12	By the end of Day 5
	Final examination		60	Examination period
	<p>Notes on assessments:</p> <ul style="list-style-type: none"> • 5 In-class assignments (each 10% of the overall grade) are completed in groups of 4-5 students during a dedicated block of each teaching day. Submissions are handwritten and collected by the instructor at the end of each session. No electronic devices or AI tools may be used during the assignment block. • The five in-class group assignments assess students' ability to apply the concepts and tools introduced in each stage of the equity financing life cycle, especially valuation, contract analysis, transaction structuring, and stakeholder-based decision-making. The emphasis is on applied analysis and collaborative problem solving. • The final examination (50% of the overall grade) tests quantitative competencies including startup valuation, deal structuring, LBO return calculations, and IPO/SEO analytics. It is closed-book and administered digitally via Exato. 			
Recommended Literature	Lecture slide sets, student's notes selected literature that will be provided during the lecture.			
Module Structure	Stage 1: Early-Stage Financing Stage 2: Venture Capital Stage 3: Growth Equity, Buyouts, and Late-Stage Private Markets Stage 4: IPO, Public Markets, and Seasoned Equity Offerings			
Usability in other Modules/Programmes	Other modules in Corporate Finance Concentration			
Last Approval Date	2026/04/20			

Case Studies in Investment Banking
[FIN74959]

Module Coordinator		Hirst, Simon			
Programme(s)		Master of Finance			
Term		Semester 3 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Corporate Finance, Corporate Valuation			

<p>Content</p>	<p>This course is teaches the core concepts and numerical analysis that underpins investment banking, and has a decade-long track record when it comes to materially assisting students wanting to join Wall Street firms and other similar professions. Many students from prior years have gone on to work at major investment banks and private equity firms such as Goldman Sachs, JP Morgan, Morgan Stanley, The Blackstone Group and Evercore, both in London and Frankfurt. The feedback from these students is that the content of this course materially enhanced their ability to hit the ground running when they joined these firms.</p> <p><i>This course is structured specifically around the 3 key pillars of corporate finance</i>, so as to prepare students aiming to enter the world of investment banking, private equity, fund management or senior financial management roles within a major corporation. These are:</p> <ul style="list-style-type: none"> - Equity Capital Markets (IPOs, Spin-Offs and Venture Capital) - Debt Capital Markets (Fixed Income) - Mergers & Acquisitions <p>This course first teaches the core concepts in academic terms, and then uses a series of Case Studies, all written and researched by Simon Hirst, to illustrate these concepts in numerical terms. Thirdly, the Professor has written a large number of accompanying Excel models which will be used to analyse with precision each type of transaction in a template format. The cases all involve some of the largest real transactions which have taken place in recent years. No prior detailed knowledge of these products is required, and the Excel models are simple to use, even for those with limited spreadsheet experience.</p> <p>After the first day, the class will form into self-selected teams and each team will have private 20-minute group with the Professor in the afternoon session to work on a group presentation which will be presented on the Saturday morning of Class. This is an essential part of the learning process, because it will illustrate the thought process required to solve complex corporate finance issues.</p>
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<p>Intended Learning Outcomes</p>	<p>Knowledge: On successful completion of this module, students will have an in-depth understanding of modern investment banking, e.g. they can:</p> <ul style="list-style-type: none"> • Understand the structure of corporate finance transactions which relate to Equity Capital Markets, Fixed Income and M&A in conceptual, numerical and strategic terms • Understand each type of transaction in the context of real Case Studies • Interpret these transactions with the aid of Excel templates <p>Skills: On successful completion of this module, students will have the proven ability to relate the gained knowledge and studied concept to real world situations, e.g. they can:</p> <ul style="list-style-type: none"> • Understand how these transactions work and what they are trying to achieve • Interpret the needs of clients trying to implement these investment banking transactions • Learn how to apply judgement to optimise the structure and strategic objectives for a range of key investment banking transactions <p>Competence: On successful completion of this module, students will be able to transfer the learned concepts to the investment banking industry and corporate finance departments of large global corporations, e.g. they can:</p> <ul style="list-style-type: none"> • Partake in the financial advisory process • Relate the knowledge of an IB practitioner to a valued client • Identify new transaction opportunities for clients
<p>Forms of teaching, methods and support</p>	<p>Lectures & Case Study Discussions</p> <p><u>Lectures</u> i) Presentations covering the key concepts of Equity Capital Markets, Venture Capital, Debt Capital Markets and Mergers & Acquisitions ii) Specific Case Studies that show examples of real and large transaction in all of these key product areas</p> <p><u>Excel</u> In-Class Excel Exercises where the professor will use his own templates, and guide the class through writing the formulas for themselves</p> <p><u>Team Mentoring Sessions</u> Working as a team and using the Professor as their mentor to undertake the Case Study exam</p>

Type of Assessment(s)
and performance

Type of examination	Duration or length	Performance Points	Due date or date of exam
Multiple choice test (individual)	30 Minutes	30	Exam Week
Case studies (group)	20 minutes	70	Saturday morning session
Individual Assignment	45 minutes	20	Friday afternoon

The **Multiple Choice Exam** is an individual multiple choice quiz, structured in conformance with Section 1 of the General Course Examination Regulations ("GCER"). Its learning objective is to test students' understanding of the M&A concepts taught in Class and involves 30 questions to be answered in 30 minutes, each with 4 possible answers, only one of which is correct. 1 point per correct answer - no negative marks for wrong answers. This will take place in the Exam Week which follows the course.

The **Case Study Exam** is a group Presentation project, structured in conformance with Section 6 of the GCER. Its learning objective is to test students' judgement in selecting an M&A deal structure which optimises the objectives of the key stakeholders. It covers a specific Investment Banking Case set by Prof. Hirst. It will require a Powerpoint Presentation and an Excel Model. Time will be set aside during part of each of the last 4 afternoons of Lectures for Case Preparation on a team-by-team basis under the mentorship of the Professor. Teams will be given 20 minutes to present their Case on Saturday morning. Each group will be graded separately, but members of each team will be awarded the same team grade, provided they attend group sessions and make a genuine contribution. The mentoring sessions do influence the grading indirectly.

The **Individual Assignment** is structured in conformance with Section 2 of the GCER. It will take place in-class and will require students to write answers to a series of short essay questions on investment banking concepts covered in class, which may reference some numerical calculations. The learning objective is to grasp the nuances and logic of key concepts in M&A.

Recommended Literature	<p>Required:</p> <ul style="list-style-type: none"> • Cases studies and presentations/excel spreadsheets(will be made available in the course) • Paradigms in Corporate Finance by Simon Hirst (Yale University Press, 2025) <p>Highly Recommended:</p> <ul style="list-style-type: none"> • <i>The course materials and lecture notes are designed to be all-inclusive and have been designed so that they are easily to follow after the lectures have been delivered. Additional reading materials will have only limited benefit because they are often written by academics who have no experience in structuring and executing these transactions, and therefore could prove to be confusing. It is more important to understand the lecture slides completely, rather than to broaden out into unrelated materials which may not have been prepared on a consistent basis.</i> <p>Recommended (to refresh corporate finance basics):</p> <ul style="list-style-type: none"> • Damodaran, A., Damodaran on Valuation, John Wiley & Sonso • Berk, J. and De Marzo, P., Corporate Finance, Pearson International • Hillier, D., Ross, S., Westerfield, R., Jaffe, J. and Jordan, B., Corporate Finance, McGraw-Hill, European Edition • Brealey, R., Myers, S. and Allen, F., Corporate Finance, McGraw-Hill International Edition
Module Structure	<p>The module structure has three elements:</p> <ul style="list-style-type: none"> • Presentations which give a detailed understanding of the key concepts relating to M&A/Private Equity, Equity Capital Markets and Debt Capital Markets • Case Studies in each of these topics, using live examples with a detailed analysis of the numbers in each case • Review of financial models which are used to interpret numbers in each type of transaction
Usability in other Modules/Programmes	Other modules in Corporate Finance Concentration; M&A and Advanced M&A electives
Last Approval Date	2026/04/15

Renewable Energy Finance [FIN74961]

Module Coordinator		Moslener, Ulf			
Programme(s)		Master of Finance			
Term		Semester 3 Q2			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Previous modules; basic economics; basic finance			
Content		<p>This module enables you to put a project into context from different perspectives: environmental, technological, regulatory, and particularly from a financing perspective. Based on this, you will learn how to use standard finance tools - notably project finance - to make considered assessments and suggestions about financing approaches that reflect the true specificity of the underlying issues related to renewable energy or more general infrastructure investment. Discussions in class will touch upon a variety of aspects around the energy transition.</p>			

<p>Intended Learning Outcomes</p>	<p><i>Knowledge:</i> Students acquire a rich factual knowledge of the specifics of renewable energy markets, i. e. they are able to</p> <ul style="list-style-type: none"> • describe the basic functioning of energy - in particular electricity markets • explain the structure and functioning of a renewable energy or broader infrastructure project finance transaction and • describe how different policies might impact a project finance transaction <p><i>Skills:</i> Students will be able to evaluate the immediate consequences of the specifics of the respective markets, i.e. they are able to</p> <ul style="list-style-type: none"> • analyse market designs and support mechanisms • analyse the consequences for a project finance transaction <p><i>Competence:</i> Students will have the ability to make comprehensive, multi-disciplinary assessments of choices in the development and implementation of renewable energy in power production, i. e. they are able to</p> <ul style="list-style-type: none"> • prepare project investment decisions • reflect the impact of policy instruments on such a decision • communicate complex policy and financing issues with a view to support decision making • reflect about an individual infrastructure investment in the context of the overall energy transition
<p>Forms of teaching, methods and support</p>	<p>Interactive lectures. Support through E-learning elements. Cases and in-class-discussion.</p>

Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Written exam</td> <td>60 min</td> <td>60</td> <td>exam week</td> </tr> <tr> <td>Presentation</td> <td>ca 10-15 min + Discussion</td> <td>60</td> <td>during the course</td> </tr> </tbody> </table>	Type of examination	Duration or length	Performance Points	Due date or date of exam	Written exam	60 min	60	exam week	Presentation	ca 10-15 min + Discussion	60	during the course
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Written exam	60 min	60	exam week										
Presentation	ca 10-15 min + Discussion	60	during the course										
<p>The exam will be a closed book exam.</p> <p>The presentations will be in-class presentations in groups (including commented slides) systematically cover “hot topics” in the field.</p> <p>These presentations and the discussion in particular serve the learning goal:</p> <ul style="list-style-type: none"> • prepare project investment decisions • reflect the impact of policy instruments on such a decision • communicate complex policy and financing issues with a view to support decision making • reflect about an individual infrastructure investment in the context of the overall energy transition 													
Recommended Literature	Specialised articles and Reports - to the extent needed.												
Module Structure	<p>Block I / Market Environment:</p> <ul style="list-style-type: none"> • Regulatory Environment • Climate Change & Climate Policy • Energy Economics • Renewable Energy: Technologies & Markets <p>Block II / Financing:</p> <ul style="list-style-type: none"> • Financing Projects & Project Finance • Financing Instruments (Public and Private) • Cases • Student Cases/Presentations (e.g. relevant real world projects, innovative financing schemes, cash flow ...) • Latest trends in "Financing the Energy Transition" 												
Usability in other Modules/Programmes	Alternative Investments, Mergers and Acquisitions, Entrepreneurship, Master`s Thesis												
Last Approval Date	2026/04/20												

Financing Sustainability & Transformation
[FIN74956]

Module Coordinator		Rink, Sebastian			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Elective Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Basic knowledge in economics, finance.			
Content		<p>This module explores the intersection of finance and sustainability, focusing on the foundational concepts underlying sustainable finance, central elements of sustainable finance and tools for sustainable financing. This will enable you to discuss the basics of environmental economics and the philosophy of sustainability in the context of finance. You will learn, which elements constitute sustainable finance such as climate scenarios, sustainability standards and metrics, and sustainable financial products. Finally, you will get a basic understanding of practical applications of sustainable finance such as portfolio decarbonisation strategies, risk management strategies for dealing with transitional and physical risks, and the use of machine learning in sustainability.</p>			

Intended Learning Outcomes	<p>Upon completion of this module, you will:</p> <p><i>Knowledge</i> Apply the fundamental principles of environmental economics and the philosophy of sustainability. Be able to use your knowledge of climate science, including the implications of global warming, biodiversity loss, and ecological limits in the context of finance. Acquire familiarity with various sustainability-related financial scenarios, carbon accounting standards, and sustainability metrics.</p> <p><i>Skills</i> Analyze and interpret complex data and reports related to climate science and sustainable finance. Apply environmental economic theories to the development and assessment of sustainability policies and financial instruments. Construct and manage sustainable investment portfolios using modern financial tools and strategies such as portfolio decarbonisation and scenario analysis.</p> <p><i>Competences</i> Critically assess the role of finance in promoting sustainability and address the dual challenges of managing financial risks and supporting ecological goals. Employ state-of-the-art techniques such as scenario analysis for analyzing sustainability aspects. Develop a holistic understanding of sustainable finance products and their regulatory frameworks, preparing for leadership roles in the finance sector.</p>												
Forms of teaching, methods and support	Interactive lectures. Support through E-learning elements. Cases and in-class-discussion.												
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Written Exam</td> <td>60</td> <td>60</td> <td>Exam Week</td> </tr> <tr> <td>Presentation</td> <td>ca. 15 min plus discussion</td> <td>60</td> <td>during the course</td> </tr> </tbody> </table> <p>Within the group presentation the most relevant learning goals out of those above will be:</p> <ul style="list-style-type: none"> • Apply the fundamental principles of environmental economics and the philosophy of sustainability. • Be able to use your knowledge of climate science, including the implications of global warming, biodiversity loss, and ecological limits in the context of finance. • Employ state-of-the-art techniques such as scenario analysis for analyzing sustainability aspects. 	Type of examination	Duration or length	Performance Points	Due date or date of exam	Written Exam	60	60	Exam Week	Presentation	ca. 15 min plus discussion	60	during the course
Type of examination	Duration or length	Performance Points	Due date or date of exam										
Written Exam	60	60	Exam Week										
Presentation	ca. 15 min plus discussion	60	during the course										

Recommended Literature	<p>Further literature can be helpful in preparation for the course:</p> <p>Roncalli, T. (2022). Handbook of Sustainable Finance. Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4277875</p> <p>IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. In Press. https://www.ipcc.ch/report/ar6/wg1/chapter/summary-for-policymakers/</p> <p>Schoemaker, D., Schramade, W. (2023). Corporate Finance for Long-Term Value, ISBN:978-3-031-35009-2. Available at: https://link.springer.com/book/10.1007/978-3-031-35009-2</p>
Module Structure	<p>Part I: The WHY of Sustainable Finance</p> <ul style="list-style-type: none"> • Philosophy of Sustainability • Science of Climate Change & Biodiversity • Introduction to Environmental Economics • The Role of Finance in the Transformation <p>Part II: The WHAT of Sustainable Finance</p> <ul style="list-style-type: none"> • (Climate) Scenarios • Carbon & Environmental Accounting • Sustainability Metrics • Sustainability Products <p>Part III: The HOW of Sustainable Finance</p> <ul style="list-style-type: none"> • Sustainable Portfolio Construction • ESG and Risk Management • Machine Learning in Sustainable Finance <p>All parts will cover relevant concepts and include discussions on ongoing developments.</p>
Usability in other Modules/Programmes	<p>Linked to other modules of the MSc Finance Concentration □ Sustainable Finance □, Master`s Thesis Other electives for which this module could be helpful background information:- Insights into Manufacturing Industry- (Advanced) Mergers and Acquisition</p>
Last Approval Date	2026/04/02

Managing ESG in Investing [MGT70489]

Module Coordinator		Newton, Andrew William			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Elective Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Principles or Foundations of Finance. Basic ethics. Bachelor's Degree in business			

<p>Content</p>	<p>This course is designed to complement your quantitative skills in financial analysis and portfolio management with the conceptual and analytical insights needed to compete for jobs in what the Financial Times has called the ESG 'war for talent' – the current high demand for those with the knowledge and skills necessary to integrate environmental, social, and governance (ESG) factors into investment decision-making.</p> <p>Coverage includes:</p> <ul style="list-style-type: none"> • Three motives for ESG investing: people, power, and profit • Stakeholder analysis for investors • Understanding transmission mechanisms from values to value • The central role of reputation and company culture in linking values to value • The 'E' and the 'S': seeing business through the lenses of human rights, justice and sustainability. • The 'G': corporate governance paradigms, risks and opportunities • ESG data challenges, and reporting standards related to ESG analysis • Active ownership strategies: engagement, coalition-building, voting, resolutions, and exit • Fixed income ESG • Climate change and transition finance as a cross-cutting issue <p>Some work each day is conducted in teams of your own choice. Among other tasks, you will get time to work on your deliverable for the group presentation assessment in the final session. I will be available to spend time with each team during these periods to talk through issues you have encountered in your presentation.</p>
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Intended Learning Outcomes
Knowledge:

Upon successful completion of this module, students will know and understand the rationales for, core concepts of, and approaches to the integration of environmental, social, and governance factors into investment decision-making e.g. they will be able to:

- Identify and explain the three main drivers (people, power, profit) for integrating ESG insights into investment (and therefore corporate) decision-making;
- Explain the ethical and political norms against which ESG performance is benchmarked, including human rights, justice, and sustainability;
- Identify a firm's stakeholders, and explain the significance of the different bases on which stakeholders are connected to an enterprise for value creation and risk;
- Understand and explain climate change as a cross-cutting issue;
- Explain the various transmission mechanisms by which values performance affects firm value and risk both for equity and fixed income investors, including the mediating role of reputational resources such as trust and legitimacy;
- Locate relevant, comparable, and robust data on firm ESG performance;
- Identify the range of active ownership strategies open to investors wishing to influence portfolio companies on their ESG performance, and explain the success factors required for each.

Skills:

Upon successful completion of this module, students will be able to (complete the following tasks/solve the following problems):

- Analyse a firm's stakeholders, and the different capacities in which each is connected to the enterprise;
- Identify performance benchmarks for existing ESG concerns such as climate change, diversity, and global inequality in terms of specific ethical, political, and industry norms, and identify emerging ESG concerns in the same terms;
- Research data on a firm's ESG performance and analyse that performance against norms and peers;
- Analyse the available tactical choices available for the active ownership of an investment and identify those most likely to succeed.

Competence:

Upon successful completion of this module, students will have learned about how to integrate environmental, social and governance concerns into investment strategy, selection, and active ownership. Specifically, they will be ready to:

- Undertake robust research and analysis of a firm's ESG performance;
- Craft compelling arguments applying ESG performance insights for input to portfolio strategy formulation and investment selection processes;
- Devise and execute realistic strategies for the ongoing active ownership of portfolio assets in line with client ESG objectives.

Forms of teaching, methods and support	Pre-course readings, interactive lectures, group work, case studies, classroom exercises, student presentations.																			
Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Oral participation</td> <td>Throughout the course</td> <td>20</td> <td>Throughout the course</td> </tr> <tr> <td>Group presentation</td> <td>20 minutes per group</td> <td>70</td> <td>Last session Saturday morning</td> </tr> <tr> <td>Written examination</td> <td>30 minutes</td> <td>30</td> <td>Exam week</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • The assessments have the potential for a maximum 120 points in total. Full instructions and grading rubrics are set out in the Assessments Pack. • The group presentation assessment requires self-selected or (failing that) assigned groups of students to evaluate a given company stock and/or bond from an ESG perspective, including articulation of an active ownership strategy. The 20-minute presentation takes place on the last afternoon of class. (70 points). To cultivate professionalism in team work, and to encourage the full involvement of all team members, the grades of individual team members are adjusted with the aid of a peer evaluation tool. • The written examination is an individual, paper-based, multiple-choice test taken during exam week. The test contains 30 questions and lasts 30 minutes. (30 points) <p>The group presentation and written examination assessments are integrative: they concern the whole content of the course. The oral participation grade only concerns the material being covered in that particular class.</p> <p>Students should review the Assessments information on Canvas for detailed instructions and grading rubrics.</p>				Type of examination	Duration or length	Performance Points	Due date or date of exam	Oral participation	Throughout the course	20	Throughout the course	Group presentation	20 minutes per group	70	Last session Saturday morning	Written examination	30 minutes	30	Exam week
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Oral participation	Throughout the course	20	Throughout the course																	
Group presentation	20 minutes per group	70	Last session Saturday morning																	
Written examination	30 minutes	30	Exam week																	
Recommended Literature	<p>The core text is: UNPRI. 2023. ESG integration in listed equity: A technical guide. URL: https://www.unpri.org/listed-equity/esg-integration-in-listed-equity-a-technical-guide/11273.article (accessed May 18, 2024). An additional recommended text is: Schoenmaker, D., and Schramade, W. Principles of Sustainable Finance. Oxford: Oxford University Press. 2019.</p>																			
Module Structure	Lectures take place in one concentrated block-week																			
Usability in other Modules/Programmes	Master thesis																			
Last Approval Date	2025/04/07																			

**Restructuring & Strategic Management
Control [MGT72044]**

Module Coordinator		Mahlendorf, Matthias			
Programme(s)		Master of Finance			
Term		Semester 3 Q1			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		English			
Total Workload	150 h	Academic Teaching Hours:	44	Remaining Workload:	Self-study
		One academic teaching hour corresponds to 45 minutes.			
		Self-study includes lesson preparation and follow-up activities, reading assignments, assessment preparation, take-home assignments, etc.			
Prerequisites		Foundations of Finance; Financial Statement Analysis			
Content		<p><i>“Even though the particular focus of restructuring may change over time—yesterday’s Internet crisis is tomorrow’s real estate/private equity/banking[/COVID/Ukraine/Trump-tariffs] crisis —companies in general restructure for the same reasons: to improve their financial performance; to take advantage of new strategic opportunities; and to increase their market value through improved communication and enhanced credibility with investors, analysts, and other capital market participants. The many factors that trigger restructuring—competition, technological change, macroeconomic shocks, market volatility, taxes, regulation, and financial speculation—are omnipresent and cut across industries, countries, and time”</i> (S. C. Gilson, Harvard Business School)</p> <p>The module Restructuring & Strategic Management Control aims at analyzing firms in financial distress and developing solutions to improve profitability. The module will contribute to acquiring theoretical knowledge and practical applications about how financial and nonfinancial information is used in strategic and operational decision-making in turnarounds.</p>			

<p>Intended Learning Outcomes</p>	<p>Knowledge: Students become acquainted with tools and techniques to evaluate the success of firms. Having taken the course, students can:</p> <ul style="list-style-type: none"> • Explain various methods that help to understand the reasons for unprofitability and to improve the strategy • Illustrate how a company is managed after bankruptcy has been declared and • Specify how debt & liabilities, equity & assets, and employee claims can be restructured to allow a fresh start for the company <p>Skills: Students learn to analyze complex situations of firms in distress and to develop suggestions for restructuring firms. On successful completion of this module, students can:</p> <ul style="list-style-type: none"> • Reconsider the business model • Manage turnaround activities • Assess the profitability on the corporate and business unit levels and • Select performance indicators which support the achievement of short and long-term objectives <p>Competence: Upon successful completion of this module students will be prepared for a career in consulting firms, the financial advisory task of audit firms, and more generally for executive positions in the finance function of medium-sized and large corporations. Students become qualified to:</p> <ul style="list-style-type: none"> • Develop solutions in challenging financial situations • Using state-of-the-art AI tools in a professional way • Reposition the strategy of a firm based on the analysis of financial and nonfinancial data • Communicate restructuring requirements with different stakeholders in a constructive manner
<p>Forms of teaching, methods and support</p>	<ul style="list-style-type: none"> • Pre-class assignments • Lecture with integrated Excel exercises • In-class discussions • AI tools • Student presentations • Simulation games (e.g. Sony's Battle for Video Game Supremacy; Balanced Scorecard Simulation) • Executive guest lectures

Type of Assessment(s) and performance	<table border="1"> <thead> <tr> <th>Type of examination</th> <th>Duration or length</th> <th>Performance Points</th> <th>Due date or date of exam</th> </tr> </thead> <tbody> <tr> <td>Assignment</td> <td>30 pages/slides</td> <td>60</td> <td>tbd</td> </tr> <tr> <td>Written exam</td> <td>60 min</td> <td>60</td> <td>Exam week</td> </tr> </tbody> </table>				Type of examination	Duration or length	Performance Points	Due date or date of exam	Assignment	30 pages/slides	60	tbd	Written exam	60 min	60	Exam week
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<p>The assignment consists of multiple sub-tasks which will have to be completed during the quarter of the lecture. Some of those will be in-class assignments such as student presentations and simulation games. The sub-tasks will be made available on Canvas before the lecture starts.</p> <p>Connection between examination types and qualification goals:</p> <ul style="list-style-type: none"> • Assignment -> Assesses knowledge about tools, techniques, and business settings; Assess the competence to communicate and discuss restructuring aspects • Written exam -> Assesses the knowledge about restructuring concepts, the skill to analyze profitability, and the competence to develop solutions in challenging financial situations 																
Recommended Literature	<p>Gilson, S. C. (2010). <i>Creating value through corporate restructuring: Case studies in bankruptcies, buyouts, and breakups</i>. John Wiley & Sons.</p> <p>Datar, S. M., & Rajan, M. V. (2021). <i>Hornngren's cost accounting: A managerial emphasis</i>. Pearson.</p> <p>Articles and textbook chapters for each topic will be provided via Canvas.</p>															

Module Structure	<ol style="list-style-type: none"> 1 Understanding and avoiding insolvency Restructuring debt: How bankruptcy works Liquidity management 2 Product portfolio and strategic investments Product portfolio decisions: Lifecycle, BCG matrix, and product portfolio cash flows Strategic investments: Discounted cash flows, scenarios, real options, Monte Carlo 3 Restructuring equity and valuing companies Restructuring equity and assets / Investing in distressed situations Valuing companies in distress 4 Segment Profitability Transfer pricing: Capacity utilization and lower price limits Multi-level contribution margin: Cost cutting and overhead allocation 5 Operating Efficiency and Costs Digitalization of internal controls: Process mining, product mix with capacity constraints Service & customer profitability: Activity based costing 6 Value Based Management ROI & EVA: DuPont value drivers Working capital optimization: TRUFA big data analytics 7 Growing digital businesses Strategy simulation & analyzing performance drivers AI Agents - Managing the digital workforce 8 Measuring impact Growing a Platform Business: Simulation Game Steering Decarbonization <p>Note: The structure can be subject to changes.</p>
Usability in other Modules/Programmes	The content will be helpful for other courses related to financial advisory, consulting, turnaround management, restructuring, management accounting, and strategy execution.
Last Approval Date	2026/04/10