Frankfurt School of Finance & Management
German Excellence. Global Relevance.

Frankfurt School Exchange Student Information

Overview of Winter Semester 2025/26 BSc Modules

This catalogue is subject to change

Winter Semester 2025
Elective Modules block offer (between 18-30 Aug 2025)
Advanced Analytics in Practice - How to Leverage Customer Data in Financial Institutions
Asset Management (partially German language)
Consumer Behaviour

Elective Modules in Q1 (1 Sep to 17 Oct 2025)	**Elective Modules in Q2 (27 Oct to 12 Dec 2024)**
Accounting and Capital Markets	Applied Persuasion
Advanced Mathematics	Blockchain & Decentralized Finance
Comparative Competition Law with a focus on digital markets	Business Strategy
Data Science Techniques and Real-World Applications	Collective Intelligence
Entrepreneurship	Current Topics in Practical Philosophy
Environmental Economics and Energy Finance	Financial Instruments
Evidence Based Management	International Healthcare Business
Financial Crimes	Mergers & Acquisitions
International Trade and Economic Integration	Principles of Innovation Management
Leadership	Rechtliche Herausforderungen Human Ressource Management (German language)
Microfinance	Software craftsmanship: How to write clean code and develop high-quality applications
Social Entrepreneurship & Impact Investment	Strategic Competition
Supply Chain Management	The future of banking and Finance in a digitalized world
Trading and Sales	The Rise of China's Economy

Further Information about the modules:

- The winter semester is structured in two quarters with the following dates:
  Q1: 1 September – 17 October 2025 // exam period: 18-25 October 2025
  Q2: 27 October – 12 December 2025 // exam period: 13-20 December 2025
  Courses are either offered in Q1 or in Q2, only the German language courses run for both quarters.
  There are no breaks between quarters.

- Within each quarter the modules are usually scheduled in fixed time slots which either run on one day of the week (8 academic hours, morning and afternoon), or on two consecutive days (4 academic hours, in the evening). Individual classes may take place on Friday evenings and Saturdays as well.

- Each module offered at FS is worth **6 ECTS** and consists of 11 sessions à 4 academic hours.

- Each module description provides a concise overview of the module, including its requirements, assessments, prescribed textbook, and recommended further readings. These module descriptions are the sole documents available for students to present to their home universities for course approval.

- The default language of instruction is English, unless indicated. The recommended course load is two modules per quarter and the maximum is three. The maximum course load per semester is five (30 ECTS), which includes the German language course. If you want to book the German course additionally to the 5 courses, you will have to pay extra fees.

- **ADD and DROP period:** You will have the opportunity to add or drop courses **(subject to availability)** during the last week of August, when the course selection platform will reopen (exact date and time to be announced). Please be aware that courses taking place in August are block weeks and cannot be dropped under any circumstances. **Once the platform closes, you will no longer be able to make any changes to your course selections; all registered courses will appear on your transcript.**

- Without exception, students may only choose from the courses listed in this module catalogue.

- It is **not** possible to select courses from the Master Programme.

Asset Management [FIN60608]

Module Coordinator		Stotz, Olaf			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Good understanding of finance and statistics, good computer skills			

Content	Asset management will be discussed from the perspective of capital markets and investors. An asset manager has to combine goals of investors and risk and return properties of capital markets. Students will learn how to optimally combine those three elements – capital market conditions, investor's goals and the resulting optimal portfolios. In recent years, non-financial goals (i.e. sustainability) have gained importance. How to incorporate non-financial goals will, therefore, also be adressed. Theoretical models and empirical observations help to understand how to trade of capital market conditions and investors goals. During the module students will develop and backtest an investment strategy using elements of the lectures and implement this strategy (Learning by doing). Therefore, a good understanding of statistical issues and good computer skills are helpful. At the end of the term students will present the performance of an investment strategy and write a term paper. Following the tradition in recent years, selected investment teams will have the opportunity to present their startegy to the investment comittee of an asset management company. In previous years, Quoniam Investment, the quantitatuve investment manager of Union Asset Management has awarded the winning team with the "Quoniam Hochschulpreis" and a financial reward (up to 3.000 Euro) Main topics: • Introduction to theoretical models and empirical observations of capital markets • Acitive versus passive investing • Estimation approaches of return characteristics (expected return and risk characteristics) • Models to optimally trade of risk and return based on investor goals and capital market conditions • Factor Investing • Sustainable/ESG Investing • Retirement Investing • Behavioral Finance • Development of an investment strategy, back-testing of the investment strategy, performance analysis of the investment strategy, summarized in a term paper

Intended Learning Outcomes	**Knowledge**: On successful completion of this module, students will have a deep understanding about the functioning of capital markets and of how to select security portfolios optimally. Students will get an overview about major concepts, approaches and techniques in asset management and empirical and theoretical capital market research. They can • understand and explain major capital market models • optimize a portfolio of securities • understand and analyse an investment strategy. **Skills**: On successful completion of this module students will have the proven ability to apply theoretical knowledge to practical portfolio management problems. They can • analyse empirical asset prices and capital market data • estimate expected returns and risk parameters of securities • identify asset pricing anomalies • develop an investment strategy that potentially outperforms the market. **Competence**: On successful completion of this module, students are able to transfer their knowledge to typical working situations in the Asset Management industry. They also are able to • organize and set up an investment strategy in a team of asset managers • transfer theoretical and empirical concepts of capital market analysis and asset pricing into practical asset management approaches • judge the quality of capital market data and the quality of an investment strategy.
Forms of teaching, methods and support	Lecture, discussion, presentation, case studies, scientific papers and term paper. The module language will be German. However, presentations can also be held in English.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance points</th><th>Due date or date of exam</th></tr>
<tr><td>Presentation of an investment strategy (team work, groups will be selected in the first session) including a term paper and presentation slides</td><td>30 min</td><td>120</td><td>End of semester</td></tr>
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</td></tr>
<tr><td>Recommended Literature</td><td>To be announced.</td></tr>
<tr><td>Module Structure</td><td>Lecture, discussion, presentation, case studies, scientific papers and term paper</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Asset Management Master of Science.</td></tr>
<tr><td>Last Approval Date</td><td>2025/04/09</td></tr>
</table>

Microfinance [FIN71215]

Module Coordinator		Lopez Urresta, Tania Lorena			
Programme(s)		Bachelor of Science			
Term		7th semester			
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	This course aims at familiarizing students with the theoretical foundations and the empirical evidence of microfinance. It is based on the following questions: • What is microfinance? Why has it become a key tool in fostering financial development and providing access to financial services for the poor in many emerging markets and developing countries? • How do microfinance institutions operate? Do they square outreach with sustainability and profitability? What is the role of development (financial) institutions in establishing and supporting MFIs? • What are microfinance credit technologies and what are their peculiarities? • How do we measure the impact of microfinance? To answer these questions, the course will start with a short introduction on the world's poor, the poor and their money, and the theory of change microfinance is built upon. We continue with four sections on microfinance institutions, covering (the shortcomings of) early initiatives to foster microenterprises and small businesses via the financial sector, the market oriented institution-building approach, stylized facts about microfinance institutions as they operate today and controversies about the way they operate. A key focus of the course is on microfinance credit technologies and their capacity to reduce transaction and risk costs which are dealt with in the third part of the course. Finally, we discuss the evidence on microfinance' impact in the last section.

<table>
<tr><td>Intended Learning Outcomes</td><td>

Knowledge:
On successful completion of this module, students will have an in-depth understanding of microfinance, e.g. they can:
- Explain the development of microfinance since the mid-1970s and key factors driving this development
- Summarize and evaluate the modern theory of finance and its applicability to microfinance

Skills:
On successful completion of this module, students will have the proven ability to apply their knowledge on microfinance, e.g they can:
- Debate different approaches to microfinance based on the knowledge of the technologies and theories mentioned above
- Appraise different credit technologies used in lending to microbusiness on the basis of the theories mentioned above.
- Assess the impact of microfinance from a theoretical and empirical perspective

Competence:
On successful completion of this module, students can take responsibility to transfer the learned concepts to real world situations pertaining microfinance, e.g. they can:
- Apply the respective technologies and theoretical insights when assessing microfinance projects in real-life situations and in the policy debate on microfinance
- Appraise the impact of microfinance institutions based on different impact study methodologies

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<tr><td>Forms of teaching, methods and support</td><td>Interactive lecture</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>

<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>Group paper</td><td>max 4 pages (around 1500 words)</td><td>36 (30%)</td><td>Couple weeks before the end of module</td></tr>
<tr><td>Exam</td><td>84 minutes</td><td>84 (70%)</td><td>End of module</td></tr>
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Recommended Literature	Armendáriz de A. B., Morduch, J., (2010): The Economics of Microfinance. Massachusetts Institute of Technology, in particular chapters 4, 5, 6 and 9. Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman, (2015).Six Randomized Evaluations of Microcredit: Introduction and Further Steps. American Economic Journal: Applied Economics 7(1), 1–21. Cull, R., Demirguc-Kunt, A. and Morduch, J., (2008): Microfinance Meets the Market, World Bank Policy Research Working Paper No. 4630, Washington DC. Morduch, J., (1999): The Microfinance Promise. Journal of Economic Literature, 37: 1569–1614. Terberger, E., Winkler, A. (2021). Microfinance and Development: Policy Perspectives, in: Zafarullah, H., Huque, A. S. (eds.), Handbook of Development Policy, Edward Elgar Publishing, forthcoming You might also consult the textbook by Watkins, T.A. (2018), Introduction to microfinance, New Jersey, World Scientific Publishing and the new volume by Lieberman, I. W., DiLeo, P., Watkins, T. A., Kanze, A. (Eds.). (2020). The future of microfinance. Brookings Institution Press,

Module Structure	**Course outline** **I. Introduction** 1. The World's Poor 2. The Poor and their money 3. The microfinance theory of change **II. Microfinance institutions** 1. Early initiatives of microenterprise /small business support via the financial sector 2. Market-oriented institution building 3. Microfinance institutions today 4. Microfinance institutions – controversies **III. Microfinance credit technologies** 1. Group lending 2. Unconventional individual lending 3. Empirical evidence **IV. Microfinance impact** From storytelling to rigorous analysis Papers for review: **Microfinance institutions** 1. Battilana, J., Dorado, S., (2010). Building sustainable hybrid organizations: The case of commercial microfinance organizations. Academy of Management Journal 53(6), 1419-1440. 2. Bogan, V. L. (2012). Capital structure and sustainability: An empirical study of microfinance institutions. Review of Economics and Statistics, 94(4), 1045-1058 3. Cobb, J. A., Wry, T., & Zhao, E. Y. (2016). Funding financial inclusion: Institutional logics and the contextual contingency of funding for microfinance organizations. Academy of Management Journal, 59(6), 2103-2131. 4. D'Espallier, B., Goedecke, J., Hudon, M., Mersland, R. (2017). From NGOs to banks: Does institutional transformation alter the business model of microfinance institutions?. World Development, 89, 19-33. 5. Mersland, R., & Strøm, R. Ø. (2009). Performance and governance in microfinance institutions. Journal of Banking & Finance, 33(4), 662-669. **Microfinance credit technologies** 1. Beck, T., Behr, P. (2017), Individual versus Village Lending: Evidence from Montenegro, Review of Development Economics, 21(4), e67-e87

	Microfinance impact 1. Abrar, A., Hasan, I., & Kabir, R. (2021). Finance-growth nexus and banking efficiency: The impact of microfinance institutions. Journal of Economics and Business, 114. 2. Crépon, B., Devoto, F., Duflo, E., Parienté, W. (2015). Estimating the impact of microcredit on those who take it up: Evidence from a randomized experiment in Morocco. American Economic Journal: Applied Economics, 7(1), 123-50. 3. Dahal, M., Fiala, N. (2020). What do we know about the impact of microfinance? The problems of statistical power and precision. World Development, 128, 104773. 4. Schicks, J. (2014). Over-indebtedness in Microfinance – an empirical analysis of related factors on the borrower level. World Development. 54, 301-324. **Microfinance and macroeconomics** 1. Ahlin, C., Lin, J., Maio, M. (2011). Where does microfinance flourish? Microfinance institution performance in macroeconomic context. Journal of Development Economics, 95(2), 105-120 2. Imai, K. S., Gaiha, R., Thapa, G., & Annim, S. K. (2012). Microfinance and poverty—a macro perspective. World development, 40(8), 1675-1689. 3. Xu, S., Copestake, J., Peng, X. (2016). Microfinance institutions' mission drift in macroeconomic context. Journal of International Development, 28(7), 1123-1137. 4. Awaworyi Churchill, S. (2019). The macroeconomy and microfinance outreach: a panel data analysis. Applied Economics, 51(21), 2266-2274.
Usability in other Modules/Programmes	Other Concentration Modules
Last Approval Date	2025/03/06

Rechtliche Herausforderungen Human Ressource Management [LAW60121]

Module Coordinator		Diefenhardt, Andrea			
Programme(s)		Bachelor of Science			
Term		7. Semester			
Module Duration		1 Semester			
Compulsory/Elective Module		Concentration Module			
Credits:		6			
Frequency		Annually			
Language		German			
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		Erfolgtreiche Teilnahme an der Veranstaltung "Wirtschaftsprivatrecht" bzw. "Business Law".			
Content		Die Veranstatlung ermöglicht einen Überblick über das deutsche Arbeitsrecht und deren Bezugspunkte zur Wirtschaft. Dies beinhaltet insbesondere - individuelles Arbeitsrecht (z.B. Kündigung) - kollektives Arbeitsrecht (z.B. Mitbestimmungsrechte) - Arbeitssicherheit und - Rechtsdurchsetzung Theoretisch erlangte Kenntnisse sollen mit der Praxis verprobt werden. Welche Maßnahmen müssen Unternehmen, Personalsabteilungen und Führungskräfte treffen?			

<table>
<tr><td>Intended Learning Outcomes</td><td>Die Studierenden haben ein vertieftes Wissen über das Sachgebiet, das sie aus der Theorie, aber auch aus der Praxis des Gerichtsbesuch erlangen.
In Bezug auf ersteres setzen sie sichmit Gesetzen, Literatur und Rechtsprechung auseinander.
Durch die Verbindung von Theorie und Praxis sind die Studierenden in der Lage, rechtliche Problemstellungen und wirtschaftswissenschaftliche Bezüge zu erkennen, zu analysieren und Lösungen auszuzeigen.
Die Studierenden werden in die Lage versetzt, ihre wirtschaftswissenschaftlichen
Kenntnisse mit theoretischem und methodischem rechtlichen Wissen zu verproben und
verbinden. Sie können ihre eigene professionelle Identität analysieren und rechtliche Problemstellungen erkennen und entweder selbst lösen oder sich Unterstützung holen.
Damit können sie betriebliche Anforderungen in Bezug auf rechtliche Facetten des
Rechtsgebiets erkennen, erläutern und beschreiben und aus ihrem erworbenen Wissen
Fundierte Ergebnisse ableiten, sowie die gesellschaftliche, wissenschaftliche und ethische
Erkenntnisse berücksichtigen und reflektieren.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Die Studierenden setzen sich mit verschiedenen Lernformen auseinander: Sie erhalten theoretischen Input in der Veranstaltung und erarbeiten sich zum gewählten Themengebiet selbst ein vertieftes Wissen, das sie im Rahmen ihrer Präsentation verproben und verteidigen.
Darüber hinaus setzen sie ihre theoretischen Kenntnisse im Zuge des Gerichtsbesuchs und eines zu verfassenden Berichts zueinander in Bezug.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance points</th><th>Due date or date of exam</th></tr>
<tr><td>Referat* und Bericht** zu einem Verfahren (Gerichtsbesuch)</td><td>Referat 20-25 Minuten inkl. Literaturverzeichnis,
Bericht 5 Seiten</td><td>120</td><td>Referat nach Absprache währen des Kurses,
Bericht zum Ende des Kurses</td></tr>
</table>

* zu ausgewählten Themenstellungen entweder PPT-Präsentation oder freies Referat ausformulierter Text, beides incl. Literaturverzeichnis)
** schriftlich verfassten Bericht zu einem Verfahren des Gerichtsbesuchs.</td></tr>
</table>

Recommended Literature	Skript Junker: Grundkurs Arbeitsrecht, 23. Aufl., 2024 Dütz / Thüsing: Arbeitsrecht 28. Auflage 2023 Weitere Literatur: Schaub: Arbeitsrechtshandbuch Münchener Handbuch Arbeitsrecht (via Beck Online)
Module Structure	I. Überblick verschiedener Rechtsgebiete des Arbeitsrechts II. individuelles Arbeitsrecht III. kollektives Arbeitsrecht IV. Rechtsdurchsetzung V. Gerichtsbesuch VI. Zusammenfassen der Ergebnisse
Usability in other Modules/Programmes	Arbeitsrecht ist ein Querschnittsthema für alle Studiengänge und im späteren Verlauf Führungskräfte; insofern sind die Grundlagen vielseitig nutzbar.
Last Approval Date	2025/05/19

Principles of Innovation Management
[MGT60238]

Module Coordinator		Amigoni, Gaja			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		This Innovation Management module is offered at an advanced stage of the Bachelor program. Consequently, students are expected to have a good understanding of the business environment and core elements (strategy, marketing, finance, etc.) as well as understanding of firm□s structures, organization and operations. There are, however, no formal preliminary entry requirements for this module.			

Content	The module aims to provide students with basic concepts and awareness in innovation management and an understanding of the challenges and opportunities, which small and large firms face in relation to it. In today's rapidly changing business environment, firms can only survive if they regularly innovate - developing new products and successfully introducing them into the market. In this module, we will focus on the practices and processes that managers use to do so in order to manage innovation effectively. We will approach innovation issues from the entrepreneur and manager's perspectives. As building an organization that can continuously generate and commercialize innovations is one of the core concerns of both entrepreneurs and top management, any leader should be conversant with the leading thinking on innovation and should not leave this challenge to the R&D function within its organization alone. The module will deliberately move between strategic issues (what should you do?) and organizational and managerial issues (how should you get it done?). The course is designed in this manner as it is grounded in the belief that it is particularly dangerous to separate strategy from implementation (the "why" from the "how") when innovation is the issue, because having a great idea is worth little or nothing if a firm cannot figure out how to commercialize or monetize that idea. More specifically, we will cover topics which can be classified into 3 categories: 1. **Exploring** innovations - the processes used to explore innovations along the technology, market and strategy dimensions as the innovation moves from idea to market 2. **Executing** innovations - the structures and incentives organizations must put into place to effectively allow talented individuals to execute innovation processes 3. **Exploiting** innovations - the strategies that a firm must consider to most effectively exploit the value of their innovation

Intended Learning Outcomes	**Knowledge**: On successful completion of this module, students will be familiar with the core concepts of innovation management, i.e. they can: • Understand different techniques of innovation management • Analyze companies' innovation related activities and processes • Critically discuss a firm's need to have a strategic and integrated approach to be able to successfully manage innovation **Skills**: On successful completion of this module, students can: • Apply the core concepts of innovation management directly to real world situations • Understand the strategies most effective for exploiting innovations, and, as a result, analyze and compare innovation strategies of successful firms • Identify, evaluate, and resolve a variety of issues relating to poor innovative performance in large firms as well as entrepreneurial firms **Competencies**: On successful completion of this module, students are able to: • Implement innovation management concepts independently in their professional activities • Critically examine the potential of the innovation management concepts and techniques with which they may deal in the future • Analyze complex innovation processes in firms both internally and externally
Forms of teaching, methods and support	In-class teaching will be based on interactive lectures and discussions, case studies, and reading materials which may be assigned prior to the specific class. The main objective of the class is to analyze how firms cope with the need to innovate, what strategies and processes they apply in order to do so, and whether these strategies and processes are effective. This objective would be met through team work on both a group project and group presentations in which students will apply the concepts, tools and frameworks covered in class.

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<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance points</th><th>Due date or date of exam</th></tr>
<tr><td>Group Project Unveiling firm’s innovation strategy</td><td></td><td>75</td><td>Last day of the course</td></tr>
<tr><td>Course exam and/or quizzes</td><td></td><td>45</td><td>Exam week</td></tr>
</table>

<u>Examination requirements:</u>
Grading in this course is composed of 2 basic elements: Group Projects and Individual Contribution:

<u>Group Project – Unveiling firm’s innovation strategy (75 points)</u>
Projects will be performed by groups of minimum 5-6 students. The scope of this project is to target an established, significantly-sized firm, examine how it relates to innovation and what measurements it takes, if at all, to implement an innovation strategy.

<u>Individual Contribution – Course exam and/or quizzes (45 points)</u>
The Innovation Management course written exam.
</td></tr>
<tr><td>Recommended Literature</td><td>

Cases are organized by the FS library and will be available during the course. A web link to each case will be provided.
I will also assign other readings, which I will upload on the class website

</td></tr>
<tr><td>Module Structure</td><td>Over the course of the semester we will cover the main elements of innovation management through the combination of lectures, class presentations, independent reading of case studies and articles followed by class analysis and discussion, as well as other forms of supervised learning.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>This module provides a good fit with the Entrepreneurship module, as there are some commonalities in the nature of these two disciplines. However, these are two distinct modules and there is no requirement to take both modules.</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
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Applied Persuasion [MGT60297]

Module Coordinator		Harmancioglu, Ferdane Nukhet			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Marketing			
Content		• Persuasion • Attitudes and attitude change • Social Influence			
Intended Learning Outcomes		In this course we are going to take an applied perspective. We will cover topics related to social influence, persuasion, attitudes and attitude change. Upon successful completion of this course, students will be able to: 1. Use persuasion and social influence principles effectively to persuade other individuals and change their attitudes. 2. Organize and deliver successful persuasive communications and campaigns.			
Forms of teaching, methods and support					

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Gruop project and Group Presentation</td><td></td><td>60</td><td>During course</td></tr>
<tr><td>Individual assignment</td><td></td><td>40</td><td>During course</td></tr>
<tr><td>Participation and in class work</td><td></td><td>20</td><td>During course</td></tr>
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</td></tr>
<tr><td>Recommended Literature</td><td></td></tr>
<tr><td>Module Structure</td><td>This course will be composed of a series of in class and out of class activities and assignments.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>BSc-Thesis</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

Data Science Technique and Real-World Applications [ECO71212]

Module Coordinator		Sharafi Avarzaman, Zahra			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Senior bachelor students in economics, management, finance, or accounting with basic programming skills. In order to verify that, students will be asked to complete a small quiz on the first/second session. In case you don't satisfy this prerequisite and you still want to take the course, we urge you to take an online crash course in Python programming; there are many excellent Python introductory courses that you can find with a single Google search.			
Content		This course delivers important aspects of data analytic applications that students will face in their prospective careers in academia or industry with the following syllabus: Intro to Python: Review of basics. Data Science Toolkit: Pandas, Numpy, Matplotlib, etc. Statistics and Hypothesis Testing Causal Inference Machine Learning and Textual Analysis			
Intended Learning Outcomes		Students: • will be competent in analyzing datasets and applying specialized knowledge to different business Situations. • will apply modern research techniques to business related problems. • will learn to structure and communicate economic content in both written and oral forms to audiences from academia and business. • will be able to conduct policy and financial analyses and draft recommendations through the application of scientific methods.			

<table>
<tr><td>Forms of teaching, methods and support</td><td>Please bring your laptops to class. This will be a very hands-on course, with relatively little in the way of formal theory. Instead, we'll be working through lecture notes together in class and you'll be running code on your own machines.
Software requirements
All of the software requirements for this course are open-source and/or free. All of the lecture notebooks will be accessible. You can also download the class notebooks and run them locally on your PC. My suggestion is to install Anaconda with Python 3 (latest version).</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Peromance points</td><td>Due date or date of exam</td></tr>
<tr><td>Three Written Assignments</td><td>10 pages (min) per assignment</td><td>90</td><td>Distributed in the course time</td></tr>
<tr><td>Class Presentations</td><td>20-25 minutes</td><td>30</td><td>The last sessions of the course</td></tr>
</table>

There will be no final exam! Grades will be determined as follows:
1. 80% based on written assignments
2. 20% based on the class presentations
3. Bonus</td></tr>
<tr><td>Recommended Literature</td><td>We try to make lecture notebooks as detailed as possible so that you won't need additional books. Fortunately, Python has a great programming community, and regardless of your coding issue, you can find a solution with some searches on Stack Overflow!
Still, the lectures will closely follow the following resources:
• Data Analysis for Business, Economics, and Policy (Gábor Békés, Gábor Kézdi) - Cambridge University Press
• Python for Finance: Mastering Data-Driven Finance [2nd ed.] (Yves Hilpisch) - O’Reilly Media
• Web Scraping with Python: Collecting Data from the Modern Web (Ryan Mitchell) - O’Reilly Media
• Applied Text Analysis with Python (Benjamin Bengfort, Rebecca Bilbro, Tony Ojeda) - O’Reilly Media
• Deep Learning with Python (Francois Chollet) - O’Reilly Media
• Etc.
The list will probably be modified/updated!</td></tr>
<tr><td>Module Structure</td><td>--</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>--</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

Current Topics in Practical Philosophy
[PHI43059]

Module Coordinator		Baker, Derek			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		*			

Content	The rise of social media and the growing dominance of the internet have made becoming an informed member of society simultaneously easier and harder than ever before. On the one hand, we can now access, from within our homes, academic research, government statistics, NGO reports, and newspapers from around the world. The internet has also brought about a radical democratization in the ability to *produce* information: alternative media is now cheaper than ever to set up, and blogging and large social media websites allow ordinary citizens to broadcast their opinions to a global audience, leading to more diversity in public discourse than at any time in the past. These same features, however, have also made it harder to stay informed. Ordinary citizens cannot easily evaluate the credibility of academic research or the significance of government statistics on their own. The ability to search out news stories makes it easier to reconfirm our preexisting biases. Alternative media may not follow ordinary journalistic standards, and at the most extreme may simply manufacture propaganda. Social media has aided the spread of dangerous conspiracy theories and opened new platforms for violent extremists to recruit followers. The ease with which people can be publicly criticized may lead to more self-censorship. This course will investigate both the ethical and epistemological problems created by mass media in general, especially the internet, and to discuss various solutions. The goal will be to become more responsible producers and consumers of online information.
Intended Learning Outcomes	*Knowledge:* On successful completion of this module, students will be able to: • identify the key ethical problems created by mass media technologies, especially the internet • describe standard explanations of why the internet leads to misinformation or polarization • apply the above ideas to controversial cases. *Skills:* On successful completion of this module, students will be able to: • reflect on and assess a range of views about the nature of polarization, conspiracy theories, online extremism, censorship, and misinformation; • develop informed responses to contemporary controversies regarding the internet, news, and social media; • analyse debates about free speech, polarization, misinformation, and so on, from a deeper philosophical perspective. *Competencies:* On successful completion of this module, students will have improved their competencies in being able to: • consume and produce online media in a more responsible manner, • address difficult controversies about contemporary mass media in a thoughtful, reflective manner.

<table>
<tr><td>Forms of teaching, methods and support</td><td>The module will follow a seminar format and be based on key texts typically concerning a topic of current interest. Focus will be placed on lively debate and thorough discussion of the set readings. Careful preparation of the literature will be indispensable, as there will be no introductory presentations. Students' discussion notes will provide further stimulus for debate. To intensify our discussions and provide tailor-made feedback on students' course assignments, 1:2 supervisions will round off the seminar.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Discussion note</td><td></td><td>40 points</td><td>During term</td></tr>
<tr><td>Supervision Essay</td><td></td><td>80 points</td><td>End of term</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>Topics and texts will be chosen according to issues that are prevalent at the time. For this seminar, the following texts provide a representative overview:

Alfano, Mark, J. Adam Carter, and Marc Cheong, "Technological Seduction and Self-Radicalization," Journal of the American Philosophical Association, 4/3: 298 - 322.

Saul, Jennifer, "Someone Is Wrong on the Internet," The Epistemology of Deceit in a Postdigital Era, 139 - 57.

Fallis, Don, "Towards an Epistemology of Wikipedia," Journal of the American Society for Information Science and Technology, 59/10: 1662-1674.

Norlock, Kathryn, "Online Shaming," Social Philosophy Today, 1662-74.</td></tr>
<tr><td>Module Structure</td><td>The course will start with seminar sessions, covering different fields of current research, such as online mobs, media polarization, conspiracy theories, or collaborative learning. Following our seminar sessions, students will produce supervision essays on a further topic of current interest. Students' supervision essays will then form the basis of the supervisions that will complete the course.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Issues covered in this module will be helpful for further modules in ethics and epistemology.</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

International Healthcare Business
[SOC60158]

Module Coordinator		Gandjour, Afschin			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		General knowledge based on completed secondary education.			
Content		The first part of the module focuses on healthcare system management and economics. It will provide participants with an overview of the different areas of health economics, including current trends and developments. Additionally, it will analyze and compare various health systems from around the world. The second part of the module addresses the demonstration of value in healthcare, aligning with the industry's shift towards value-based care models. This section will explore strategies for startups and innovators to effectively demonstrate the impact and value of their contributions within this evolving landscape. More specifically, topics include: • Overview to health economics • Basic operation of health systems worldwide • Types and institutions of health systems • Health system regulation • Pharmaceutical markets • Healthcare - growing global market • International dimensions of healthcare • Global trends and challenges in healthcare • Demonstration of value in healthcare Lectures will be scheduled throughout the course of the semester.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
On successful completion of this module, students will have a thorough comprehension of the fundamentals of the structure, segments and strategies of healthcare business, that is, they can:
• Understand the role of healthcare as a growing business worldwide and a major driver of economic development,
• Identify the fundamentals of the structure, functions and the basic types of healthcare systems,
• Understand the role of healthcare in the different national environments.
Skills:
On successful completion of this module, students will have the skills to judge specific situations in healthcare business, such as:
• Describe and analyse current healthcare systems and business areas,
• Identify the interests and policies of the different stakeholders,
• Strategies for demonstrating healthcare value and impact.
Competencies:
After finishing this module students will be able to conduct independent research and analyse healthcare systems from an economic and business point of view, i.e. they can:
• Undertake research and process information on the healthcare industry and its business opportunities.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Lectures and student presentations</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance points</td><td>Due date or date of exam</td></tr>
<tr><td>Written exam</td><td>60 minutes</td><td>60</td><td>Exam week</td></tr>
<tr><td>Team presentations</td><td>30 minutes</td><td>60</td><td>End of course</td></tr>
</table>
Additional requirements / information:
Team presentations – Students will work in groups to analyze a healthcare-related topic with a quantitative focus, presenting their findings in a structured format. Individual grades will reflect each student's contribution to the project.
</td></tr>
</table>

Recommended Literature	• R. E. Santerre, S. P. Neun (2012): Health Economics, 6th ed., Thomson • J. Figueras, R. Robinson, E. Jacobowski (2004): Purchasing to improve health system performance. Ch 2. Buckingham UK: Open University Press • C. Scott (2001): Public and private roles in health care systems. Buckingham UK: Open University Press • R. Robinson, A. Steiner (1998): Managed Health Care. Ch 1. Buckingham UK: Open University Press • M. Drummond, B. O'Brien, G. Stoddart, G. Torrance (1997): Methods for the Economic Evaluation of Health Care Programmes Oxford UK: Oxford university Press • C. Blouin (2005): International Trade in Health Services and the GATS: Current Issues and Debates. World Bank Publications • L. R. Burns (2002): The Health Care Value Chain. John Wiley & Sons • M. E. Porter (2010): What is value in healthcare?, NEJM. • L. E. Swayne, W. J. Duncan, P. M. Ginter: Strategic Management of Health Care Organizations, 9. ed., 2018.
Module Structure	Topics include: • Overview to health economics • Basic operation of health systems worldwide • Types and institutions of health systems • Health system regulation • Economic evaluation of pharmaceuticals and medical devices • Healthcare - growing global market • International dimensions of healthcare • Global trends and challenges in healthcare • Value demonstration in healthcare
Usability in other Modules/Programmes	Bachelor Thesis
Last Approval Date	2025/05/06

Business Strategy [MGT60194]

Module Coordinator		Klingebiel, Ronald			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Principles of Management, Strategy & Organisation, or equivalent. Basic strategy knowledge			
Content		The module builds on the strategy content of management courses and deepens and extends the analysis of companies and markets. In the module, students discuss how firms gain, sustain, and lose competitive advantages. Students learn how to diagnose strategic problems, develop a guiding policy, and the fundamentals of successful execution. Topics include industry dynamics and analysis, resource analysis, strategic innovations, environmental uncertainty, and organizational evolution and adaptation.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge: On successful completion of the module, students will have a comprehensive understanding of the major tools and framework in the strategic analysis of firms and markets, i.e. they are able to
• describe the nature and sources of competitive advantages and how different industry context affect business strategy.
• explain how firms compete in technology-based industries
• summarize the basic principles of strategic innovation
• discuss the fundamental challenges of market dynamism and strategic uncertainty.
Skills: On successful completion of the module, students will have the proven ability to apply advanced knowledge to the penetrating strategic analysis of markets and firms and for the practical development of informed guiding policies, i. e. they are able to
• contrast good with bad business strategies
• explore industry and resource analysis and the nature of sustainable competitive advantages
• solve strategic problems in different industry and business contexts
• communicate their analysis professionally.
Competencies: On successful completion of the module, students are competent to identify, to structure, and to analyze general management problems and develop actionable and compelling recommendations.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Cases, class discussion, lecture. The module relies on the interactive analysis, presentation, and discussion of business cases.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td><table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance points</td><td>Due date or date of exam</td></tr>
<tr><td>Group presentation</td><td>10 mins</td><td>25</td><td>During course</td></tr>
<tr><td>Class participation</td><td>throughout</td><td>10</td><td>During course</td></tr>
<tr><td>Term paper</td><td>~2500 words</td><td>85</td><td>End of course</td></tr>
</table></td></tr>
<tr><td>Recommended Literature</td><td>Barney & Hesterly (2019), Strategic Management and Competitive Advantage, 6/E, Prentice Hall, ISBN 9780134743530</td></tr>
</table>

Module Structure	The course begins with a discussion of good and bad business strategies. Good business strategies clearly identify the specific challenges of a firm, formulate a guiding policy, and suggest a set of coherent actions. Using case studies drawn from business practice, we will further explore industry and resource analysis and the nature of competitive advantages under uncertainty. We discuss a variety of industry and sectoral contexts, with a special emphasis on the strategic management of technology and the unique challenges faced by firms in fast-paced competitive environments.
Usability in other Modules/Programmes	Bachelor Thesis (BSc_BT)
Last Approval Date	2025/04/03

International Trade and Economic Integration
[ECO60167]

Module Coordinator		Serfling, Oliver			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Microeconomics, Macroeconomics			
Content		This course is designed to expose students to the main theories of international trade. The goal is to develop the analytical tools required for understanding why countries trade, what are the gains from trade, why some individuals might lose from trade, how different policies might affect trade, and the political economy aspects of trade policy.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
On successful completion of this module, students will
• know the main theories that explain why countries engage in international trade,
• understand the advantages and disadvantages of international trade.

Skills:
On successful completion of this module, students will have command of the analytical tools to assess
• why international trade is a politically contentious issue,
• why trade can affect the distribution of income within countries.

Competencies:
On successful completion of the module, students will be able to assess and discuss
• current trade policies,
• protectionist measures of governments and their welfare effects,
• the impact of recent developments in international trade on individual countries.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>The course combines elements of a lecture with active participation from the students.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td><table><tr><td>Type of examination</td><td>Duration or length</td><td>Performance points</td><td>Due date or date of exam</td></tr><tr><td>Written exam</td><td>120 min.</td><td>120</td><td>Exam Week</td></tr></table></td></tr>
<tr><td>Recommended Literature</td><td>• Krugman, Paul R. / Obstfeld, Maurice / Melitz, Marc J. (2018), International Economics: Theory and Policy. Global edition, eleventh edition. Harlow, England: Pearson.
• Gerber, J. (2022), International Economics. Global edition, eighth edition. Harlow, England: Pearson Education Limited.</td></tr>
<tr><td>Module Structure</td><td>1. Introduction
2. World trade: An overview
3. Labor productivity and comparative advantage: The Ricardian model
4. Resources and trade: The Heckscher-Ohlin model
5. The standard trade model
6. External economies of scale and the international location of production
7. The instruments of trade policy and their welfare effects
8. Preferential trade agreements and regional integration</td></tr>
</table>

Usability in other Modules/Programmes	International Economics; International Business; International Management; FX Markets and Exchange Rate Determination; Challenges of the European Union and the Euro Area.
Last Approval Date	2025/05/06

Accounting and Capital Markets [ACC60155]

Module Coordinator		Keeve, Tanja			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Successful participation in first semester accounting module.			
Content		Accounting is an important source of company-specific financial information publicly available to external stakeholders such as debt and equity investors. The module introduces students to using the information provided in a company's annual report for decision-making in capital markets (i.e., investment decisions). To that end, we will cover topics in financial statements analysis, structured forecasting, credit analysis and equity valuation. We will also discuss accounting topics, such as corporate governance (to the degree it is relevant for debt and equity investors), consolidated accounting and segment reporting, which are important to understand the information provided in the financial statements.			

<table>
<tr><td>Intended Learning Outcomes</td><td>

Knowledge:
On successful completion of this module, students will have a thorough comprehension of the concepts, quality and uses of accounting information by capital market participants. In particular, students acquire knowledge about

- the relevant reporting standards and accounting concepts underlying firms' financial statements;
- the intricacies of earnings management
- key financial ratios and the DuPont model to decompose a firm's return on equity;
- the workings of the structured forecasting approach;
- the anatomy of simple valuation models (with a focus on the residual income model).

Skills:
On successful completion of this module, students will have the proven ability to apply advanced knowledge of accounting and capital markets by

- extracting relevant information from firms' financial statements;
- analyzing the drivers of firms' profitability;
- being able to evaluate earnings management measures;
- forecasting firms' future financial statements using a structured approach;
- using the inputs derived in valuation models.

Competencies:
On successful completion of this module, students are capable of independently analyzing financial statements and critically discussing the advantages/disadvantages of distinct accounting concepts from a user's point of view. They can clearly communicate the results of their own financial statement analysis, critically discuss and evaluate the underlying assumptions of their valuation models.

</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Presentation in group work, small case studies</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>

<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance points</th><th>Due date or date of exam</th></tr>
<tr><td>Group paper
Written exam</td><td>Approx. 15 slides
90 minutes</td><td>30
90</td><td>During semester
Exam Week</td></tr>
</table>

The exam date will be communicated by the program office.

</td></tr>
<tr><td>Recommended Literature</td><td>

- Lundholm/Sloan, Equity Valuation and Analysis, 5th edition, 2019.
- Additional readings as provided in the course package.

</td></tr>
</table>

Module Structure	The course provides the foundations of financial accounting, consolidated accounting and segment reporting. It explores earnings management intentions and possibilities. It also introduces students to financial ratios and profitability analysis. Financial ratios are applied in structured forecasting, credit analysis and equity valuation. A detailed outline will be provided in the course package.
Usability in other Modules/Programmes	The module is part of the thematic area "Managing Organisations", but the learning outcomes are beneficial for the comprehension of banking and finance modules as well.
Last Approval Date	2025/04/22

Social Entrepreneurship & Impact Investment [MGT70937]

Module Coordinator		Ben-Josef, Arie			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		PREEQUISITE MANDATORY PLEDGE: The lectures in this module are SCREEN-FREE lectures. Student are NOT allowed to have access to their screen devices (laptops, smartphones or alike) during lecture time. The screen-based devices need to be stored away during lecture time and can be accessed and used only during the team exercises and working time or during breaks. By registering to this module, you acknowledge you understand this screen-free policy and pledge to adhere to and comply with it.REQUIRED: The Social Entrepreneurship & Impact Investment requires all students to attend the classes, actively participate in discussions during the lectures and collaboratively work within their teams for maximum learning.MANDATORY: Due to the team-based nature of the module, attendance of all registered students is mandatory during the first and last day of the module. Students who will not attend these 2 days will not be eligible for any credit for this course. For a waiver of this requirement due to personal reasons, please send your request in advance via email to the module coordinator.ADDITIONALLY: Although attendance during the other days of the module is not mandatory, students who will not attend class during these days will not be able to get the credits for in-class presentations, and, by not attending the guest lectures through the module, will not be able to complete the individual assignment (see Type of Assessment and Performance Point section below).OPTIONAL: Students who has previously taken either the Entrepreneurship module or the Lean Startup Bootcamp (LSB) module will find it advantageous, as it will provide both tools and context to enhance their learning through this module. NOT REQUIRED: There is no pre-module required reading.			

Content	<u>Social entrepreneurship</u> Social entrepreneurship – new venture creation that profitably confronts social problems such as poverty and inequality, lack of access to healthcare and education, and climate change – has attracted considerable interest among individuals and organizations as a way of creating lasting and positive social impact. The tenet of this approach is that many complex social problems, when viewed through an entrepreneurial lens, can create opportunities to launch new ventures and organizations that address these problems in a profitable, sustainable, and scalable way. Social entrepreneurs aspire to solve some of today's most pressing challenges in both developed and developing economies by applying entrepreneurial thinking to create innovative products and services that deliver social and economic value. The process of addressing critical social challenges such as poverty, inequality, and environmental change through entrepreneurship can lead founders to create resource-lean not-for-profit and hybrid organizations pursuing both profit and social motives. Solving complex challenges through social entrepreneurship involves deeply understanding how to balance an organization's social mission with its profitability, analyzing and engaging with multiple stakeholders, including international organizations, government agencies, and non-governmental organizations (NGOs), sourcing capital from donors and investors, measuring impact, and scaling operations. This module is designed to provide the relevant academic experience in order to help you gain in-depth insights into economic and social value creation across a number of sustainability-driven sectors/areas aligned with the 17 United Nation's Sustainable Development Goals (SDGs) framework. Through case studies, lectures, and classroom dialogue, students will learn to think strategically and act opportunistically with a socially-conscious business mindset. Topics will include problem/opportunity assessment, acquiring the necessary resources to grow a social enterprise, and the tradeoffs between social and financial returns on investment. You will also gain exposure to various social organizational models that are making tangible and potentially scalable progress in serving the world's poorest populations. Finally, the module will facilitate the sharing of knowledge, best practices, and learning of the process of launching a viable and scalable social enterprise. <u>Impact Investment</u> The focus of this part of the module will be on the relatively new discipline called ***impact investing****,* which seeks to generate social benefits as well as financial returns. This discipline is defined by two core concepts: *intentionality* (as the intention to create social impact from investing) and impact *measurement* (as the integration of accountability and transparency at all levels of the investment decision).

Impact investing is an emerging field to describe the practice of filtering an investor's intention through the lens of long-term social and environmental value creation. It is sometimes referred to as "blended value", in which the best aspects of traditional investing, philanthropy, and collective action are blended together to create results with long-term public benefits. To achieve a measurable social return, impact investors will look for businesses that have a strong social mission embedded in their business operations. From boutique beginnings, impact Investing has surged into the mainstream of global money management, now affecting trillions of dollars of assets. The greatest demand is for strategies and products that promote social good while having expected returns competitive with non-impact options.

Social entrepreneurship and impact investing are two interrelated topics in business school education today, as impact investments have become one of the most significant funding vehicles for social entrepreneurs and enterprises. This trend is well aligned with impact investment permeating the agendas of today's policymakers, wealthy and public-spirited individuals, academia and philanthropic foundations.

This part of the module will offer you an opportunity to develop your knowledge of impact investing using a complementary approach to this field. It would expose the students to a broad spectrum of impact investment strategies, used by both managers of social enterprises seeking funding, as well as by impact investment managers, whether in the private finance sector or the public sector.

Your Module Coordinator – Arie Ben Josef

Dr. Arie Ben Josef is a Senior Lecturer at Frankfurt School of Finance and Management and the former Head of Consulting Services at Greentec Capital Partners (GCP), a Frankfurt-based VC fund investing in African start-ups and SMEs, combining social and environmental impact with financial success. During his time at GCP, he was in charge of consulting and strategic advisory services provided to startups under various programs, bringing into play his extensive experience in identifying, evaluating and nurturing innovative start-up companies, leading them from concept to commercialization, as well as non-for-profit and for-profit social enterprises.

Arie is leveraging over 25 years of managerial experience gained in the Israeli start-up ecosystem, where he held a variety of executive positions, focusing on healthcare and medical technologies. He served as VP Corporate Affairs with X-Technologies Inc. (acquired by Guidant Corp. in 2003) and as the US Medical Director of Itamar Medical, a formerly Nasdaq-traded Israeli medical-device company (NASDAQ: ITMR), acquired by ZOLL Medical Corp. in 2021. After being appointed CEO of ETView Medical, an airway management device startup, he took the company from the governmental incubator where it was founded all the way to become a publicly-traded company, and led it through 3 consecutive public offerings at the Tel Aviv Stock Exchange (TASE). In 2014, he joined NGT3, an international micro-VC fund operating a

	technological incubator in Nazareth, Israel. As CTO & Business Development Director at NGT3, he oversaw the foundation and investment in 9 new medical start-up companies and the venture building activities of NGT3's 13 portfolio companies. Dr. Ben Josef is a graduate of the MBA for Science & Technology program at Queen's University, Ontario, Canada, holds a DMD degree in dental medicine, a MSc. degree in Basic Dental Science and a LL.B. degree in law. He has been lecturing at Frankfurt School since 2018, teaching Entrepreneurship and Innovation Management and guiding MBA students in their Master Theses, as well as in their first steps as entrepreneurs.
Intended Learning Outcomes	Upon successful completion of this module, students will be able to • Define social entrepreneurship and distinguish its elements from across a continuum of organizational structures from traditional nonprofits to social enterprises to traditional for-profits • Classify the key elements of, and actors in, the social entrepreneurship ecosystem • Appraise the role of the social entrepreneur in addressing protracted social problems, disrupting the status quo and achieving social impact • Translate a social problem into an opportunity for creation of a social value by applying social enterprise and social innovation research and models • Apply various methods for planning, developing, testing, launching and evaluating social change ventures • Acquire familiarity with the tools, models and frameworks behind impact investing • Understand how and whether investors should incorporate what have traditionally been considered "non-financial" criteria in their investment decisions (e.g., climate risk, environmental sustainability, minority representation on boards, and, in general, the potential to create social good) • Conceive, design, develop and present impact investing strategies, including an impact thesis, and discern such impact investing strategies for a wide range of investors
Forms of teaching, methods and support	In-class teaching will be based on interactive lectures and discussions, guest lectures, case studies, and reading materials which may be assigned prior to the specific class. Additionally, students will be required to perform in-class short presentations on assigned in class topics, which will be graded on spot. The main objective of the class is a group project of developing a business model for a social entrepreneurial idea, one which has to solve a real-world or local social problems, to devise a funding strategy based on impact investment approach for it and present it to the different stakeholders within the applicable ecosystem. The module is therefore **heavily based on team work**.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>Group Project (Presentation): Founding & Funding Your Social Enterprise *</td><td>12 plus slides</td><td>60</td><td>Last Day of Module</td></tr>
<tr><td>Group Project Proposal Presentation**</td><td>3 plus slides</td><td>10</td><td>Midpoint of Module</td></tr>
<tr><td>Group In-Class Exercises (Presentations) ***</td><td>3 plus slides each</td><td>30</td><td>Through the Module</td></tr>
<tr><td>Individual Assignment**</td><td>500 words</td><td>20</td><td>Last Day of Module</td></tr>
</table>
* There will be a final presentation ("demo-day") of your group’s project (ca.12 slides) to the class on the last day of the module.
** Groups will need to present their proposal for their final group project for approval through a short presentation to be conducted ca. half way through the module.
*** During the module groups will conduct 3 in-class exercises (10 points each), the results of which will be presented in class through a 3-slide presentations. Class exercises will be graded on spot.
****As individual assignment, you will be required to send a short essay/letter to the module coordinator, summarizing your main learnings, take-offs and reflection from the presentations of 2 guest lecturers you will select out of the those who would be our guests through this module.
</td></tr>
<tr><td>Recommended Literature</td><td>There is no required prior reading for this class.</td></tr>
<tr><td>Module Structure</td><td>Over the course of the semester, we will cover the main elements of social entrepreneurship and impact investment through the combination of lectures, class presentations, independent reading of case studies and articles followed by class analysis and discussion, as well as other forms of supervised learning.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>This module provides a good fit with the Entrepreneurship and Lean Startup Bootcamp (LSB) modules, as there are some commonalities in the nature of these disciplines. However, each is a distinct module and there is no requirement to take all these modules.</td></tr>
</table>

Last Approval Date	2025/04/09

Advanced Analytics in Practice - How to Leverage Customer Data in Financial Institutions [INF50031]

Module Coordinator		Henrich, Benjamin			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Recommended but not mandatory:- Analytical Thinking & Critical Reasoning- Mathematics - Introduction to Data Science- Machine Learning- Data Visualisation			
Content		In this course we will focus on the financial industry as a example to illustrate the typical challenges of Advanced Analytics in practice. To effectively use customer data for exploration purposes, financial institutions need to have access to high-quality, accurate data and Advanced Analytics tools. Machine Learning (ML) and Deep Learning (DL) are also useful algorithms in this context, because they can be particularly effective in detecting patterns and anomalies in data. The main scope of this elective is to get a deeper understanding of the challenges and possible frameworks. Based on group project work, we will work with real world data. This will be supported by dedicated lectures to reflect on necessary theory and frameworks. Therefore, we will use customer credit data to see how we can use the raw data to create insights about interest rat and product types and the related implication. This will be also used to build ML and DL models. However, the acquired knowledge can be applied to related challenges on different topics and data.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Skills in data analysis and coding. Also knowledge of technology infrastructure and professional development of machine learning/deep learning solutions.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Project Work</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>Presentation (incl. Discussion)</td><td>Expected content: Min. 5 Slides</td><td>30</td><td>During Course</td></tr>
<tr><td>Project Artifacts (incl. code scripts, documentation)</td><td>Submitted project as .zip file</td><td>30</td><td>During Course</td></tr>
<tr><td>Written exam</td><td>60 Minutes</td><td>60</td><td>31 August 2024</td></tr>
</table>

For this module, three submissions are planned: a presentation, your project folder, and a short written exam.

The presentation should be a systematic showcase of your work, covering the main points of your workflow. It should include a small introduction, the data used, the data preprocessing methods employed, the outputs of the machine learning activities, and implications and conclusions. Since this is a group project, each team member should present a part of the presentation within a 5-minute timeframe.

In order to validate your work, the submission of the group project folder is required. Each group should submit a folder containing Python scripts and code documentation. The code should be executable with the agreed standard environment settings. If you wish to deviate from the standard settings, you should include the configuration or virtualization file, such as the Docker config.

To distinguish between individual performances, a final written exam is also required. This exam will cover the content provided in the impulse lectures.</td></tr>
</table>

Recommended Literature	Fayyad, Usama; Piatetsky-Shapiro, Gregory und Smyth Padhraic (1996), From Data Mining to Knowledge Discovery in Databases, AI Magazine, American Association for Artificial Intelligence, California, USA, Seite 37–54. Krizhevsky, A., Sutskever, I., & Hinton, G. E. (2012). ImageNet Classification with Deep Con- volutional Neural Networks. In Advances in Neural Information Processing Systems, (pp. 1097–1105). LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep Learning. Nature, 521 (7553), 436–444. Remus, W. E., & Kottemann, J. E. (1986). Toward Intelligent Decision Support Systems: An Artificially Intelligent Statistician. MIS Quarterly, (pp. 403–418). Rosenblatt, F. (1958). The Perceptron: A Probabilistic Model for Information Storage and Organization in the Brain. Psychological Reviews, 65(6), 386–408.
Module Structure	Impulse lecture and project work **Lecture No°; Lecture Title** **1** Introduction to Data Science, Group Setup, Project Task, Definitions and Frameworks1 **2** Best Practice: Data Pre-Processing **3** Best Practice: Data Exploration **4** Best Practice: Data Modelling **6** Group Presentation Preliminary Results **7** Role Models in FAANG (Facebook, Amazon, Apple, Netflix, Google) Companies as Blueprint **8** State-of-the-Art Software in Practice, such as IDE3, Library's, and Standards Solutions **9** State-of-the-Art Hardware in Practice, such as Server, and GPU-Powered Systems **10** Group Presentation Final Results **11** Group Presentation Final Results
Usability in other Modules/Programmes	Practical knowledge for in-depth data analysis and model development in python 3.9+.m
Last Approval Date	2025/03/25

Financial Instruments [FIN70983]

Module Coordinator		Vogt, Kevin			
Programme(s)		Bachelor of Science			
Term		7th semester			
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. Some background in Financial Accounting or some working experience in Accounting would be helpful but not necessary.			
Content		This module aspires to making students familiar with the financial reporting implications of financial instruments, especially of issued financial instruments (equity/liability) derivatives/financial guarantees, structured products, and hedging activities by asking the following questions • What is the central theme within the standard for financial instruments, what is the implication of recognizing derivatives and other financial instruments and measure them at amortised cost or at fair value? • How do companies try to reduce volatility in P/L arriving from derivative accounting rules by the means of IFRS 9? Understanding these issues is important to anyone who will be involved in financial investments, lending activities, structured finance, or hedging financial risks such as interest rate risk or currency risk – or who will be analysing or advising companies that are. The financial reporting effects of these kinds of transactions frequently are ill-understood by the parties involved, although they can have a profound effect on firms' effectiveness and performance.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
This module is based on consolidated financial statements prepared under International Financial Reporting Standards (IFRS), which publicly traded investor companies domiciled in the EU are required to apply. On successful completion of this module, students should be able to
• differentiate between the most common types of cash instruments and derivatives
• discuss different categories of financial assets and reclassification rules that have been implemented during the financial crises and measurement consequences
• explain stage transfers in the process of building loan loss provisions
• explain similarities and differences between hedge activities and hedge accounting
• explain the basic pricinples of derivative netting and offsetting

Skills:
Afterwards students should be familiar with IFRS 9. Students should enhance their ability to
• show the basics of preparing and analysing consolidated IFRS financial statements
• report the main rules and the current standard on financial instruments
• contrast the main structures of equities versus liabilities with consequences on ratios and structure basic products
• estimate impairment rules and recapture the need for conceptional changes from incurred to expected loss products

Competence:
This approach is intended to provide insights into issues relevant to practice, while at the same time developing the skills necessary to evaluate and discuss these issues from an academic standpoint. Students should be able to
• differentiate and apply different accounting rules regarding Financial Instruments Accounting
• analyze financial statements, including notes, regarding accounting for and management of derivatives and other financial instruments
• structure basic instruments according to accounting rules</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Teaching, practical cases in class, interaction, discussion, guest lectures</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Exam</td><td>120</td><td>120</td><td>Exam Week</td></tr>
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</td></tr>
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Recommended Literature	• *Deloitte*, iGAAP Volume B – Financial Instruments, IFRS 9 and related Standards or Manual of Accounting: IFRS 20xx, Vol.1-2, every edition since 2019 • *Ernst & Young*, International GAAP, every edition since 2019 • *KPMG*, Insights into IFRS, every edition since 2019 • *PwC*, Manual of Accounting, every edition since 2019
Module Structure	1. IFRS 9 as a compromise – Structure and scope of application 2. Derivatives and related contracts, structured products/embedded derivatives 3. Issuing equity instruments versus financial liabilities 4. Categorisation, measurement, and reclassification of financial instruments 5. Impairment 6. Derecognition 7. Hedging versus Hedge Accounting under the accounting choice of IAS 39 or IFRS 9
Usability in other Modules/Programmes	Other Electives, Bachelor Thesis
Last Approval Date	2025/05/06

Blockchain & Decentralized Finance
[FIN74278]

Module Coordinator		Faber, Thomas; Schulden, Philipp			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		No prior knowledge necessary.			
Content		In this course, the basics of blockchain, crypto assets and decentralized finance (DeFi) will be covered and illustratively explained. This includes: • Blockchain fundamentals & cryptography • Bitcoin nuts and bolts • Managing and protecting crypto assets • Ethereum & smart contracts • Decentralized finance • Legal aspects and regulation • Scaling the blockchain			
Intended Learning Outcomes		At the end of class, the learner will • have a basic understanding of blockchain, crypto assets, DeFi and their interconnection • be able to explain what smart contracts and decentralized applications are • be able to define the key components of decentralized finance infrastructure • be able to explain which problems decentralized finance is designed to solve and how • be able to set up and program a Bitcoin lightning node			

<table>
<tr><td>Forms of teaching, methods and support</td><td>Lecture, seminar, assignments</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Group project & presentation</td><td></td><td>120</td><td>During Course</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>Antonopoulos, A. M. (2014). Mastering Bitcoin: unlocking digital cryptocurrencies. O'Reilly Media.

Nakamoto, S. (2008) Bitcoin: A Peer-to-Peer Electronic Cash System. https://bitcoin.org/bitcoin.pdf

Narayanan, A., Bonneau, J., Felten, E., Miller, A.,, Goldfeder, S. (2016). Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction. Princeton University Press.

Schär, F., & Berentsen, A. (2017). Bitcoin, Blockchain und Kryptoassets: Eine umfassende Einführung. Books on Demand.

Song, J. (2019). Programming bitcoin: Learn how to program bitcoin from scratch. O'Reilly Media.</td></tr>
<tr><td>Module Structure</td><td>tba</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Master in Blockchain & Digital Assets</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

Entrepreneurship [MGT70936]

Module Coordinator		Marks, Jonathan			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		No particular prerequisites.			

Content	This course provides an environment in which students can experience many of the aspects of being an entrepreneur. It aims to provide students with an understanding of the entrepreneurial process and the various concepts, practices, and tools used in the entrepreneurial arena. The course has a strong focus on gaining experiences in entrepreneurial practice. I hope you will develop an entrepreneurial mindset, which should serve you well in whatever career you chose. One of the main reasons why entrepreneurs fail, is because they did not test their ideas early enough; they did not force themselves to expose their ideas to reality. Thus this course is about learning how to avoid this trap. We will gain experience not in planning how to start a firm but in practicing the things needed to be a successful entrepreneur. The resulting skills will benefit you not only if you want to start new ventures but also with new project in existing organizations. Beyond entrepreneurship, the skills you pick up in the course are core competencies for doing business in consulting, investment banking and for industry jobs. A primary focus of this class will be gaining experience in the practices needed to develop a venture business model. This will require a lot of field work such as conducting experiments to test aspects of the model, talking to potential customers to better understand their needs and talking to potential partners to set up your business. What the class is not about: This course is about learning the practice of being an entrepreneur. It is not about planning, it is about acting: It will not teach you how to write a business plan, it is not about how to get venture capital funding or how to analyze start-ups. The course cannot be successfully completed by only doing research in the library.
Intended Learning Outcomes	Knowledge: On successful completion of this module, students will have a thorough comprehension that entrepreneurship requires being active; they will have an understanding of the practice of entrepreneurship. Skills: On successful completion of this module, students will have practiced many of the necessary skills needed to start entrepreneurial projects and companies. Skills such as: - Refining ideas - Testing assumptions that underlie an idea - Talking to potential customers, getting feedback about entrepreneurial ideas - Creating experiments to test aspects of a business model - Drawing conclusions from experimental data - Testing ideas in the real world - Prioritizing and synthesizing work Competence: On successful completion of this module, students can apply the skills described above.

<table>
<tr><td>Forms of teaching, methods and support</td><td>The main task of the class is to develop and test a business idea, thus gaining key skills that are relevant for entrepreneurs but which can also be applied to the wider business context. The class is heavily activity based, with in class exercises, flipped classrooms and team work. The main objective of the class is a group project to develop a business model for an entrepreneurial idea.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance points</td><td>Due date or date of exam</td></tr>
<tr><td>Group Project & Presentation</td><td></td><td>75 points</td><td>Last day of the course</td></tr>
<tr><td>Course Final Exam</td><td>45 Minutes</td><td>45 points</td><td>Exam week</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>No obligatory text book readings are required. Further readings of case studies or articles to be discusses in class will be assigned prior to each relevant classs in which they will be discussed.</td></tr>
<tr><td>Module Structure</td><td>Over the course of the semester we will cover the main elements of entrepreneurship through the combination of lectures, in-class exercises, independent reading of case studies and articles followed by class analysis and discussion, as well as other forms of supervised learning.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Relevant for a module that requires entrepreneurial skills.</td></tr>
<tr><td>Last Approval Date</td><td>2024/10/31</td></tr>
</table>

Trading and Sales [FIN60170]

Module Coordinator		Dengler, Heike			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Lectures in Mathematics and Statistsics are necessary, Lecture Principles of Finance and Financial Markets or equivalent is recommended.			
Content		The aim of this module is to prepare students for positions in trading, sales, risk management, asset management and related areas. The module focuses on financial products/markets, financial institutions/risk management and regulation. The theoretical aspects will be supplemented by talks of participants and leading practitioners and hands-on front/middle office tool presentations. Topics covered include: • Asset Management, Recap Mathematical Tools and Cash Markets: stocks & bonds • Financial Markets, liquidity & Complexity • Balance sheet, capital and leverage • Derivative markets: futures & options, swaps, CDS • Securitized instruments: ABS, CDOs • Risk management & Regulation • Introduction to Front Office Systems during a visit to Bloomberg office • Simulated trading session			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge: On completion of this module, students have developed an elementary and borad knowledge and understanding of the principles and techniques of trading and sales, i. e. they
can understand the main drivers of financial markets
can discuss the characteristics of specific financial markets and instruments
can discuss economic cycles and their impact on financial markets
can discuss appropriate trading and investment strategies,
have an overview of the recent developments in risk management and regulation.
Skills: On successful completion of this module, students will have the proven ability to
explain, price and hedge a variety of financial products,
measure and manage financial risks,
efficiently retrieve financial information via front office information systems.
Competence: Students will acquire the competencies necessary to work in a front office or risk management position. More precisely, the aim of this module is to prepare students for positions in
trading,
sales,
risk management,
asset management and related areas.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Presentations by students, practitioners and the lecturer, discussions, practical training</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td><table><tr><td>Type of examination</td><td>Duration or length</td><td>Points</td><td>Due Date or Date of exam</td></tr><tr><td>Student presentation</td><td>30 minutes</td><td>50PT</td><td>during semester</td></tr><tr><td>Seminar thesis</td><td>10 pages</td><td>40 PT</td><td>31.10.2025</td></tr><tr><td>Oral participation</td><td></td><td>30PT</td><td>during semester</td></tr></table></td></tr>
<tr><td>Recommended Literature</td><td>John C. Hull, Risk Management and Financial Institutions, 5th Edition</td></tr>
<tr><td>Module Structure</td><td>Lectures will be supported by power point slide material. Student presentations are an integral part of the lectures. Content will be reinforced by Q&A sessions. The course is of interactive nature, for full credit demonstration of interest in financial markets and active contributions are necessary.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Asset Management and Bachelor Thesis</td></tr>
</table>

Last Approval Date	2025/03/18

Strategic Competition [MGT72100]

Module Coordinator		Reisinger, Markus			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		"Microeconomics and Decision Theory" and "Markets, Incentives, and Ethical Management" or "Markets, Games, and Incentives" for MPE students.			
Content		• Competition with homogeneous products • Product differentiation • Competitive effects of horizontal mergers • Vertical market structures • Bundling and tying • Network effects and switching costs			

Intended Learning Outcomes	*Knowledge:* On successful completion of this module, students will have an in-depth understanding of strategic competition, e.g., they can: • Understand formal game-theoretic concepts and apply them to competitive situations • Apply important principles of competition to different industries • Acquire a deeper knowledge of the competitive consequences of mergers between big companies (e.g., Siemens - Alstom) or exclusive dealing arrangements, which are regularly discussed in the news • Understand how phenomena that are paramount in modern markets, such as network effects or bundling, shape competition • Identify regularities in different situations of competition, which can be very useful in many business situations • Identify business tactics, which enhance the profitability of the company, taking into account the moves by competitors *Skills:* On successful completion of this module, students will have the proven ability to apply acquired concepts to issues related to strategic competition, e.g. they can: • Strategically assess advantages and problems associated with competition • Apply regularities to unknown situations pertaining to competition, which is helpful in almost all business situations • Have a fundamental understanding of business strategies and the situations where different tactics can be successful and where they are likely to fail • Deepen their knowledge on strategic and marketing tools employed by many companies *Competence:* On successful completion of this module, participants will be competent in tackling complex situations regarding competition, e.g. they can: • Use game-theoretic reasoning in competitive situations • Anticipate strategic moves of competitors and find the optimal reaction to it • Gain strategic advantages in competitive environments
Forms of teaching, methods and support	The basic teaching format will be lectures, in which the main material will be explained in detail. These lectures are accompanied by problem sets, which will be discussed together. There will also be extensive self-explanatory solutions to the problems. The material contains (simple) mathematical derivations, which will be applied to competitive situations to understand in a rigorous way how firms compete. In addition, different blocks of the lecture contain small “case studies” in which the insights of the lectures can be explained. We will also discuss recent competition cases and how antitrust authorities, such as the Federal German Cartel Office, evaluated them and enforced the respective decision.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of Examination</th><th>Duration or Length</th><th>Performance Points</th><th>Due Date or Date of Exam</th></tr>
<tr><td>Written exam</td><td>120 min</td><td>120</td><td>Exam Week</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>• Belleflamme, Paul and Martin Peitz: Industrial Organization: Markets and Strategies, Cambridge University Press, 2010</td></tr>
<tr><td>Module Structure</td><td>The way companies compete in most modern industries causes challenges for managers at almost all hierarchy levels. In particular, foreseeing moves of competitors or competitors' reactions to own pricing tactics or marketing tools is important for the success of companies. As an example, in a market with strong networks effects, is it profitable to make a product compatible with the one of the competitors or should a company refrain from doing so? For a manufacturer who sells a popular brand through retailers, is it better to offer an exclusive contract to a specific retailer or not? How can a planned merger between two big firms, such as Siemens and Alstom, be evaluated from a competitive perspective?

This module tackles these and several other kinds of questions. It applies formal game-theoretic concepts to understand strategic moves of firms and to determine if specific actions trigger favourable or unfavourable responses by competitors. The modul explains in detail the economic reasoning behind the market outcomes and determines which situations are favourable for firms and which ones should be avoided.

In all topics, the module also refers to anti-trust cases, involving e.g. exclusive distribution of football games. In these cases, antitrust agencies scrutinized the practices pursued by companies, sometimes leading to high cartel fines. Some topics are also accompanied by "small case" studies that provide examples of firm behaviour.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>The methods and insights from the course are helpful to students in many further subjects of their studies. For example, the course relates to Marketing topics by analysing marketing tools often used by firms. The course also relates to Strategy by giving a more rigorous basis for some of the concepts taught there and explains strategies used by firms in competitive environments. Finally, on a global level, the course enables students to better understand several competitive situations and the strategies of firms.</td></tr>
<tr><td>Last Approval Date</td><td>2025/03/25</td></tr>
</table>

Supply Chain Management [MGT60241]

Module Coordinator		Reuter, Carsten			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Operations Management, Statistics and Probability, Mathematics			

Content	Modern supply chains are networks of organizations (suppliers, manufacturers, distributors, retailers) that combine their resources to procure materials, transform them, and deliver products and services to end consumers. When designed and managed effectively, these networks provide companies with significant competitive advantages, as seen with global leaders like Amazon, Apple, Dell, and Zara. This module introduces fundamental principles and tools of supply chain management, enabling students to develop a strategic framework for optimizing both financial and environmental performance within supply chains. The interactive simulation *The Fresh Connection* serves as a core component, where students work in teams to make real-life supply chain management decisions, apply theoretical concepts, and directly observe the financial impacts of their decisions. Through this, they learn to identify and manage key metrics and drivers within a supply chain effectively, while also developing essential teamwork and cross-functional alignment skills across procurement, production, sales, and finance. Additionally, the module places special emphasis on sustainable supply chain management. Students explore how environmental and social considerations are increasingly becoming essential success factors in modern supply chains. They develop strategies to reduce environmental impact, improve resource efficiency, and promote fair and transparent business practices. The goal of the module is to equip students with both the technical skills and strategic mindset required to manage supply chains as powerful and sustainable networks that meet economic, ethical, and data-driven demands.

Intended Learning Outcomes	**Knowledge:** Upon successful completion of this module, students will have acquired a comprehensive understanding of key definitions, theories, and concepts in supply chain management, including: • Understanding how effective supply chain management contributes to financial and operational performance across diverse industries. • Identifying and comparing various supply chain management approaches, including those aimed at enhancing sustainability. • Familiarity with strategic and operational drivers in supply chain management, and the ability to evaluate their impact on financial, environmental, and social performance. **Skills:** Upon successful completion of this module, students will have demonstrated the ability to practically apply supply chain management concepts through strategic decision-making, including: • Utilizing *The Fresh Connection* simulation to apply theoretical concepts in a dynamic, team-based environment, analyzing and optimizing real-world supply chain processes, and experiencing the financial impacts of decisions firsthand. • Developing essential teamwork and decision-making skills by collaborating within diverse groups to achieve shared objectives in the simulation, while gaining insights into cross-functional alignment across procurement, production, sales, and finance. • Integrating sustainable practices into supply chain strategies, assessing trade-offs between economic performance and ecological or social responsibility. • Critically analyzing supply chain challenges and formulating data-driven strategies to address them within various organizational contexts. **Competencies:** Upon successful completion of this module, students will be prepared to assume responsibility for designing and implementing supply chain management solutions within an organizational setting, including: • Applying expertise to contribute effectively to the development and execution of sustainable supply chain processes, considering both financial and ethical impacts. • Independently managing supply chain responsibilities and making informed, strategic decisions that align with broader corporate goals, including sustainability objectives. • Presenting supply chain challenges and strategic solutions to diverse audiences, communicating complex ideas and arguments with clarity and confidence. • Recognizing the critical importance of cross-functional alignment and advocating for cohesive supply chain management approaches that support overall corporate strategy.
Forms of teaching, methods and support	Lecture, Case Studies, Online-Simulation, Mentoring

Type of Assessment(s) and performance

Type of examination	Duration or length	Performance Points	Due date or date of exam
Supply Chain Simulation - Performance Score (Group - in teams of three to four)		60	During the course
Supply Chain Simulation - Written Performance Analysis (Individual)		42	During the course
Peer Evaluation		18	During the course

Examination requirements:
Active participation in *The Fresh Connection* supply chain simulation is mandatory from the beginning of the module. Teams of four will be formed on the first day, with each member assuming responsibility for a specific function within the simulated company. Performance assessment is based on both the final outcome achieved in the last simulation round and the developmental progress demonstrated throughout the course, with a strong emphasis on continuous improvement. Therefore, late enrollment or withdrawal after the simulation has commenced is generally not permitted.

Participation in the scheduled sessions is strongly recommended to support decision-making during the simulation. These sessions provide essential insights, frameworks, and tools that are critical for making informed and strategic decisions throughout the simulation process.

The written performance analysis requires students to critically reflect on their individual decisions made during the simulation, evaluating their impact on both their assigned corporate function and the overall company performance. This analysis should incorporate key principles, frameworks, and models of supply chain management to demonstrate a deep understanding of the strategic and operational decisions made.
Additionally, a peer evaluation will be conducted within each team, allowing members to assess each other's contributions and collaboration skills. This evaluation aims to acknowledge individual contributions to the team's overall success and provide insights into teamwork quality and functional alignment.

Recommended Literature	The lecture is mostly based on the following textbook: Chopra and Meindl: Supply Chain Management: Strategy, Planning, and Operation, 6th edition, McGrawHill, 2014 Cachon and Terwiesch: Matching Supply with Demand: An Introduction to Operations Management, 3rd edition, McGraw Hill, 2012 The textbook can be found in the FS library in reasonable numbers (Signatures: DDC/Chopra).

Module Structure	The module consists of a total of **11 sessions**, structured as follows: **Session 1:** • **Introduction to Supply Chain Performance:** Achieving Strategic Fit • **Sustainability Along the Supply Chain** **Session 2:** • **Introduction to Supply Chain Simulation:** The Fresh Connection (Round 1) **Session 3:** • **Debrief & Discussion:** The Fresh Connection (Round 1) • **Managing Uncertain Demand & Demand Forecasting** **Session 4:** • **Fundamental Supply Chain Principles** • **Decision Making:** The Fresh Connection (Round 2) **Session 5:** • **Debrief & Discussion:** The Fresh Connection (Round 2) • **Inventory Management:** Cycle Inventory, Safety Inventory, Minimum Order Quantities **Session 6:** • **Continuation of Inventory Management:** Cycle Inventory, Safety Inventory, Minimum Order Quantities • **Decision Making:** The Fresh Connection (Round 3) **Session 7:** • **Debrief & Discussion:** The Fresh Connection (Round 3) • **Bullwhip Effect:** Triggers and Mitigation Strategies **Session 8:** • **Continuation of Bullwhip Effect:** Triggers and Mitigation Strategies • **Decision Making:** The Fresh Connection (Round 4) **Session 9:** • **Debrief & Discussion:** The Fresh Connection (Round 4) • **Supply Chain Coordination and Pooling Concepts** • **Decision Making:** The Fresh Connection (Round 5) **Session 10:** • **Late Differentiation and Postponement Strategies** • **Risk Management** **Session 11:** • Special Topic(s) of Interest • **Final Debrief & Discussion:** Comprehensive Reflection on *The Fresh Connection* (All Rounds) The exact content and sequence of the sessions may be subject to adjustments depending on scheduling constraints and overall course progression. Any changes will be communicated to participants in advance to ensure adequate preparation and alignment with learning objectives.
Usability in other Modules/Programmes	Bachelor Thesis
Last Approval Date	2025/04/01

Evidence-Based Management [ECO70208]

Module Coordinator		Grunewald, Andreas			
Programme(s)		Bachelor of Science			
Term		7th semester			
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 knowledge in data analysis. In particular, students should have completed the course in applied research methods.			
Content		In the last decade it has become increasingly uncomplicated to collect and analyze data. As a consequence, an increasing number of companies use survey measures, data analysis, and randomized controlled trials to evaluate the impact of their management decisions on key performance indicators. This course gives an introduction to the basic techniques of evidence based management. We will focus on the following goals: First, students will be equipped with the basic econometric tools needed to analyze the quantative impact of managment decisions. Second, students will be familiarized with typical data structures when applying evidence based management and they will analyze corresponding data sets. Third, we will provide a systematic guide on how to collect different kinds of data that might be meaningful to evaluate management decisions. Fourth, we will give a selective overview of important results and the state of the art in the current literature.			

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
Upon completion of the course students will know how evidence can help managers to make better decisions for their company. In particular, students will know different techniques to collect data and how to analyze the emerging data sets. They will also know important current applications of evidence based managment.

Skills:

Upon completion of the course, students will be able to judge the extent to which existing data sets can be used to guide decisions and how to collect new data if needed. Moreover, they will learn how to handle different kinds of data sets, which can provide guidance for managment decisions. This includes basic knowledge about the econometric tools as well as a thorough comprehension of the limits of data anlysis in mangement decision.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>This course will be a combination of two different forms of teaching. First, there will be traditional lectures. Second, we will have a number of in class data analysis sessions, in which students work on managment cases. To solve the cases, students will have to analyze data.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td><table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Written exam</td><td>120 Minutes</td><td>120</td><td>Exam Week</td></tr>
</table></td></tr>
<tr><td>Recommended Literature</td><td>Bandiera, Oriana, Iwan Barankay, and Imran Rasul, “Social preferences and the response to incentives: Evidence from personnel data,” The Quarterly Journal of Economics, 2005, pp. 917–962.

Cohn, Alain, Ernst Fehr, and Lorenz Goette, “Fair wages and effort provision: Com- bining evidence from a choice experiment and a field experiment,” Management Sci- ence, 2014.

Lazear, Edward P., “Performance Pay and Productivity,” The American Economic Re- view, 2000, 90 (5), 1346–1361.

Pfeffer, Jeffrey, and Robert I. Sutton. "Evidence-based management." Harvard business review 84.1 (2006): 62.

Stock, James H and Mark W Watson, Introduction to Econometrics: Global Edition, Pearson Education, 2012.</td></tr>
</table>

Module Structure	1. Summary Statistics and Simulations 2. Regressions to analyze Correlations 3. Business Experiments 4. Causal Identification in Observational Data
Usability in other Modules/Programmes	Bachelor Thesis
Last Approval Date	2025/03/05

Software craftsmanship: How to write clean code and develop high-quality applications [INF72023]

Module Coordinator		Lokman, Can (John)			
Programme(s)		Bachelor of Science			
Term		7th semester			
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 knowledge of programming and Python. Knowledge of fundamental programming concepts such as variable types, functions, conditional expressions, and iteration.			

Content	"*Programs are meant to be read by humans and only incidentally for computers to execute.*" — D. Knuth "*If [programming languages] had true garbage collection, most programs would delete themselves upon execution.*" — R. Sewell Data analysts and programmers, much like writers, should craft code that is both easy to read and straightforward in its logic. Rushed and unprincipled code might offer a quick solution, but it is often riddled with unclear and complicated logic and can quickly become indecipherable, even to the person who wrote it. Poorly written code can lead to maintenance nightmares, hinder collaboration, and make it nearly impossible to reuse or adapt the software and data analyses for future needs. The consequences of such code are far from trivial. It can turn your professional life into a constant struggle, for example, when you are trying to integrate a new feature into a complicated program you wrote a few months ago but can no longer decipher without investing a significant amount of time. Or when the mere addition of a single function to your program carries the risk of inadvertently causing other parts to fail. This leads to unstable software, subpar data analyses, a cycle of excuses, endless bug fixes, and missed deadlines. Regrettably, this kind of code tends to be the norm and not the exception. Every year, businesses incur millions in costs or are forced to shelve software and leave the market because they cannot maintain, enhance, or update their software efficiently. 'Clean code', on the other hand, stands out for its clarity and maintainability: it is easily readable, and welcomes changes, allowing you to introduce new features to your software or analysis without the fear of causing a collapse with each modification. For developers and data analysts, this also means more efficient, enjoyable, and professional collaboration with peers. For managers, instilling good coding practices can enable your company to rival the accomplishments of larger companies with a leaner team, save millions of euros in the long term, and could be the deciding factor in your company's success. To understand what clean code is, we will start by addressing common misconceptions about writing good code and conducting data analyses (e.g., "The person who wrote this must be a genius because nobody else can understand it."). To accomplish this, we will use plenty of examples, hands-on exercises, and discussions to demystify what good code/analyses look like. You will also have the chance to observe and learn from the software design and decision-making processes of a professional programmer and data analyst during numerous live demonstrations and follow-along sessions, in which common pitfalls and best practices will be highlighted. We will cover:

	- How to write readable and maintainable code and data analyses - How to design your software optimally - Best practices, guidelines, and principles in programming - Critical thinking, best practices, and pitfalls in AI-assisted coding - Test-driven development (TDD) - Refactoring code - Debugging - Error handling - Logging and communicating with potential users of your code or analysis - (Automated) code documentation - Version management - Using integrated development environments (IDEs) to write and refactor code efficiently - Various tools that can help you arrive at cleaner code with less effort
Intended Learning Outcomes	At the end of this course, students will be able to… - Write easily readable, maintainable, and professional code and analyses - Know the terminology and concepts in software development - Gain insight into how professional programmers and data analysts design and code their applications - Identify badly written code - Formulate suggestions on how to improve code - Improve bad code efficiently - Avoid common pitfalls in programming - Apply programming best practices to your data analysis and programs - Work more efficiently with AI and critically evaluate AI-generated or AI-enhanced code - Write more robust software and data analysis scripts - Know the right tools to include in an everyday workflow - Spend less time hunting for and fixing bugs - Have a less stressful coding experience while arriving at higher-quality code and analyses
Forms of teaching, methods and support	Seminar & lecture style with follow-along lab exercises and discussions. Individual consultation sessions upon request.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance points</th><th>Due date or date of exam</th></tr>
<tr><td>Assignment</td><td>40 hours (estimated) throughout the course</td><td>80</td><td>Varied</td></tr>
<tr><td>Exam</td><td>40 Minutes</td><td>40</td><td>Exam Week</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>Clean Code: A Handbook of Agile Software Craftsmanship (2008), Robert C. Martin, Prentice Hall PTR. ISBN: 0132350882

This book is considered the authoritative source on software craftsmanship and writing clean code. While the examples are in Java, it is an introductory-level book that explains concepts using illustrative exercises. Therefore, it generalizes well into Python (or any other programming language)—you do not need to know or learn Java to understand its concepts.</td></tr>
<tr><td>Module Structure</td><td>1. Sandbox phase: In the first part of the course, we will delve into essential programming concepts, programming best practices, and the principles of clean code in a controlled environment using Datalore, a Jupyter-like notebook ecosystem.

2. Real-world phase: In the second part, we will advance our understanding of coding concepts and practice with topics like version management and testing, while applying clean code principles in leading professional software development environments (IDE) such as PyCharm and others.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>All modules and programmes that involve coding skills; thesis</td></tr>
<tr><td>Last Approval Date</td><td>2025/04/01</td></tr>
</table>

Mergers & Acquisitions [FIN60171]

Module Coordinator		Grote, Michael H.			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Finance 1, Corporate Finance, Accounting			

Content	This course gives a comprehensive, hands-on overview of the process of mergers and acquisitions (M&A). The field continues to be of extreme importance, especially in today's dynamic economic environment. Companies are increasingly using M&A as the fastest way to take advantage of market opportunities or to restructure their businesses. However, M&A transactions are not always successful. The course is structured along the value chain of an M&A-deal and provides both a framework and tools to tackle the complex issues of the process. The course's main perspective is that of an investment bank or M&A advisory boutique. With the help of a set of current, real-life case studies participants get a thorough blueprint of an M&A transaction. Participants will be prepared to start working in an investment bank or M&A advisory firm. The course builds upon the value chain of M&A transactions. It starts with analyses of the market players and current market developments. We discuss measuring and analyzing success factors of M&A transactions, and tackle the main driver of M&A activity, synergies. Typical transaction processes are examined and milestone documents and outcomes along the process are discussed. Real-life case studies are used for the application of several valuation methods (multiples, dcf, synergy valuation). However, please note that this is not a course on valuation - we will rather apply valuation models in the M&A context. We discuss financing M&A transactions via stock or debt and the form of payments to the seller, which are important characteristics of any transaction and often a strategic tool and not simply a means of payment. We will discuss the outline of purchase agreements (the actual M&A contracts). We discuss techniques for hostile takeovers and defenses. Private Equity is a major player in the M&A market and we will spend time understanding their business model, typical financing structures and how to model them. Finally we touch on the issue of post-merger integration, and corporate restructuring, which in many cases means selling parts of the business (again).
Intended Learning Outcomes	Students gain knowledge about the process of M&A transactions that enables them to start working in an investment bank or M&A advisory. More specifically, at the end of the learning process the student is able to • understand and assess the motives of a merger or an acquisition. • explain such transactions and structure the according processes. • implement synergy estimates in valuation and assess the uncertainties and limitations of various valuation techniques in an M&A context. • explain the impact and risks of different financing structures. • give an overview of the basic components of purchase and sale agreements. • understand and comment on commonly used takeover tactics and defenses. • analyze how value is created (or destroyed) as a result of corporate mergers.

<table>
<tr><td>Forms of teaching, methods and support</td><td>The course consists of lectures, guest lectures, accompanying material, a basic text book, an extensive slide-set, and - most importantly - the work in groups on a hypothetical transaction.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Group Presentation</td><td></td><td>80</td><td>During Course</td></tr>
<tr><td>Written exam</td><td>40 Minutes</td><td>40</td><td>Exam Week</td></tr>
</table>

Ad 1: The presentation will be prepared by groups of students. The size of the groups will be determined by the roll-out for this course; maximum group size will be five students.
The task is set up to mimic the tasks for juniors in investment banks, i.e. you are asked to prepare a powerpoint presentation with a thorough analysis of an acquisition case (to be determined at the course’s start). Detailed instructions are provided in class. You have to submit the presentation and the underlying excel files. Deadline will be after the lectures end (this might vary according to final exam schedules, details follow), and students are strongly encouraged to work on the presentation already along the course as we proceed with the topics.

Ad 2: The final exam might cover all the topics presented in the lectures, the online-material, and the guest lectures.</td></tr>
<tr><td>Recommended Literature</td><td>The main resources for this course are the slide set and the additional material available on the canvas site. A textbook with a similar structure and perspective as this course is:

DePamphilis, Donald (2019): Mergers, Acquisitions, and Other Restructuring Activities: An Integrated Approach to Process, Tools, Cases, and Solutions, 10th edition, Academic Press / Elsevier: London.

The additional material will be provided closer to the course start.</td></tr>
</table>

Module Structure	I organize this in days for a better overview: Day 1: Introduction, success and failure, why does the target take all Day 2: Synergies and their valuation, transaction process structures Day 3: Valuation: multiples, discounted cash flow, synergies Day 4: Financing and payment structure, private equity and leveraged buyouts Day 5: Takeover defense, accounting for M&A, post merger integration, corporate restructuring Day 6: recap, guest speakers The guest speakers will very likely be scheduled during the course so there might be a slight re-arrangement of topics.
Usability in other Modules/Programmes	-
Last Approval Date	2025/05/06

Comparative Competition Law with a focus on digital markets [LAW60122]

Module Coordinator		Weck, Thomas			
Programme(s)		Bachelor of Science			
Term		7th semester			
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	This course covers a central conflict area of economic policy, as evidenced through various recent announcements of Commission President von der Leyen, i.e., the conflict between market economy protection and industrial policy. However, the focus is on the existing law, not policy. The course provides an introduction into essential areas of EU competition law and U.S. antitrust law. After an overview of the history and the underlying economic problems, cartels and other agreements restricting competition (ancillary agreements, R&D/specialization agreements, distribution agreements), unilateral conduct (abuse of market power/monopolization), general procedural law and merger control are treated comparatively. In each case, the presentation of the legal system is supplemented by examples from decision-making practice. One focus is on the protection of competition in digital markets. Here, new regulatory approaches (e.g., the EU Digital Markets Act and the comparable U.S. regulatory initiatives) are contrasted and current legal developments in Asia are also addressed. Due to recent developments, the industrial policy moves in major economies will be covered as well this year, such as, e.g. the EU's "Competitiveness Compass". Finally, practice issues will be addressed with regard to competition agency proceedings and cartel damage claims, and merger control. The discussion of cartel damage will cover strategic issues such as how to proceed (lawsuit, arbitration, out-of-court settlement) and the choice of the relevant jurisdiction are also addressed on the basis of a case study.
Intended Learning Outcomes	The course will, from a policy angle, enable participants to balance market economy and other strategic state interests - all from a legal perspective. Specifically regarding the protection of competition in the market economy, participants will receive a detailed overview of the parallels and differences of competition law in the legal systems dealt with. In addition, they will receive the methodological tools to be able to assess competition law issues and the possible pitfalls in cross-border cases themselves.
Forms of teaching, methods and support	There will be a systematic presentation allowing for questions from the course participants and including also questions to the course participants. The cases are discussed in open format. The course participants are provided with materials in the course. These are the relevant laws and guidelines and key decisions. The preparation and follow-up work with these materials are selected in such a way that, on the one hand, the course participants receive a solid basis in terms of content and, on the other hand, they can also practice the practical use of legal materials. In case of queries outside the individual course units, students should contact the lecturer directly.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>Presentations by course participants</td><td>5 minutes presentation (with slides and/or handouts) plus 10 minutes discussion</td><td>80</td><td>During the course</td></tr>
<tr><td>Participation in class or, otherwise, a small homework assignment</td><td>1-2 pages</td><td>40</td><td>During the course</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>The presentations and linked online materials should be sufficient for preparation and follow-up. For those who would also like to use a systematic presentation in textbook format, the following books may be recommended:
- Van den Bergh, Comparative Competition Law and Economics, 2017, ISBN: 978 1 78643 830 0;
- Wakui/Weck, Comparative Competition Law, 2023/24, ISBN: 978 9811279256.</td></tr>
<tr><td>Module Structure</td><td>Block sessions of 4 hours</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>The course can be used in all programs dealing with compliance and management. The submodule on merger control can be combined with courses from the MBA and the M&A LL.M. programs.</td></tr>
<tr><td>Last Approval Date</td><td>2025/03/04</td></tr>
</table>

The Rise of China's Economy [ECO71211]

Module Coordinator		Löchel, Horst			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Macroeconomics			

Content	China's economic success since the country started its reform and opening up policy under Deng Xiaoping in 1978 is unrivalled. Today, the economy is the second largest in the world and the largest trading nation. In the last forty-five years, the country has raised around 800 million people from extreme poverty and GDP-per-capita reaches the level of a middle-income country. However, it is one thing to develop from a low into a middle-income by organizing an industrial revolution and another to become an advanced high-income country. The later requires the development of innovations within the framework of markets and private entrepreneurship, which differs to a certain degree from the steering approach of China's current economic model. Furthermore, China's current economy faces a variety of short- and long-term challenges like the ongoing real state crisis, falling growth rates, an imbalanced growth model, declining technological progress, an aging society as well as a trade and tech wars with Western countries. Against this background, the elective focusses on the following topics: (i) The development of China's reform path and the rise of China's economy over time. (ii) The features, performance, and challenges of China's economy of today. (iii) The internationalisation of China's economy and the competition with the West.
Intended Learning Outcomes	• **Knowledge:** Students will understand the development, dimensions, and features of China's unique economy and its integration into the world economy • **Skills:** Students will apply macroeconomic concepts to evaluate the perfomance of China's economy and policy. • **Competencies:** Students will learn to develop justified opions to complex questions like the political economy of China and its relationship with Westen countries.
Forms of teaching, methods and support	Case study discussions, lecturing and student presentations in class; reading preparation at home.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>The maximum performance points you can earn is 120 points, which is allocated with 90 points for the in-class presentation and 30 for a wrap-up term paper after the course.

<table><tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr><tr><td>Individual or team presentations based on comprehensive Powerpoint Slides</td><td>30 - 45 minutes plus Q&A</td><td>90</td><td>In Class during the elective period
Upload PPT on CANVAS one day before the presentation is scheduled.</td></tr><tr><td>Wrap-up term paper</td><td>max 4 pages</td><td>30</td><td>To be submitted at latest 3 weeks after the course was finished</td></tr></table></td></tr>
<tr><td>Recommended Literature</td><td>Main text book:

Löchel, H., Jablonski, T. (2025). The Rise of China's Economy: Past, Present, and Future, Springer

Additional readings:
Garnaut, R., Fang, C. and Song, L (ed., 2018), China’s 40 Years of Reform and Development 1978 – 2018, Sydney
Jin, Keyu (2023). The New China Playbook. What everybody needs to know. Offord University Press.
Kroeber, A. R. (2020). China's Economy, What Everybody Needs to Know, 2nd ed., Oxford University Press
Medeiros, E. S. (Eds.). Cold Rivals: The New Area of US-China Strategic Competition. Georgetown University Press
Naughton, B. (2018), The Chinese Economy, 2nd ed., Cambridge (MA)
Tsang, S., Cheung, O. (2024). The Political Thought of Xi Jinping. Oxford University Press
Zeng, Ka (ed., 2019), Handbook of the International Political Economy of China, Massachusetts (US)</td></tr>
<tr><td>Module Structure</td><td>• Session 1: The Big Picture: Past, Present, and Future of China's Economy
• Session 2: The Reform Trajectory of China's Economy over Time
• Session 3: Contemporary Features of China's Economy
• Session 4: Challenges and Future of China's Economy
• Session 5: China's Open Economy
• Session 6: Good Questions and Wrap-Up</td></tr>
</table>

Usability in other Modules/Programmes	Master
Last Approval Date	2025/03/18

Advanced Mathematics [QUM40087]

Module Coordinator		Badarinza, Cristian			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Mathematics or Mathematics for CBA			

Content	This course intends to equip students with an understanding of advanced mathematical concepts used in quantitative graduate programs in social sciences, financial economics, and business studies. We cover the following topics: Algebra • Advanced linear algebra: Eigenvalues and Eigenvectors, Singular Value Decomposition, Linear Transformations, Factorizations, the Jordan form Tensors • Groups • Rings Calculus • Principles of sequences and series of functions • Convergence, completeness and the contraction mapping principle • Functions of multiple variables: Limits, partial derivatives, higher-order local approximations • Implicit function theorem, Fubini's theorem • Riemann vs. Lebesgue integration Optimization • Linear optimization • Convex optimization: Gradient descent, Newton's method and variants, Karush-Kuhn-Tucker conditions, Global methods • Combinatorial optimization • Dynamic methods Numerical approximation • Discretization • Interpolation and polynomial approximation • Gauss–Hermite quadrature • Chebyshev polynomials • Numerical solutions to differential equations

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
Students will be familiar with advanced mathematical concepts, methods and theorems in the fields of algebra, calculus, mathematical optimization, and numerical approximation methods.

Skills:
Students will be able to prove fundamental theorems in algebra and calculus, solve systems of equations using matrix formulations, mathematically formulate, calculate and analyse complex integrals, formulate and solve optimization problems and differential equations using numerical approximation methods.

Competencies:
Students will be able to formulate and propose alternative solution algorithms for a wide range of theoretical problems. They will be able to map the basic structure of an economic model to an analytically and/or numerically tractable solution.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Lectures and problem sets</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>Problem Set 1</td><td></td><td>10</td><td>During Course</td></tr>
<tr><td>Problem Set 2</td><td></td><td>10</td><td>During Course</td></tr>
<tr><td>Problem Set 3</td><td></td><td>10</td><td>During Course</td></tr>
<tr><td>Problem Set 4</td><td></td><td>10</td><td>During Course</td></tr>
<tr><td>Written exam</td><td>80 minutes</td><td>80</td><td>Exam Week</td></tr>
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<tr><td>Recommended Literature</td><td>

Strang, G. (2022). Introduction to linear algebra. 6th edition. Wellesley-Cambridge Press.
Bertsimas, D., & Tsitsiklis, J. N. (1997). Introduction to linear optimization. Belmont, MA: Athena Scientific.
Boyd, S. P., & Vandenberghe, L. (2004). Convex optimization. Cambridge university press.
Williamson, D. P., & Shmoys, D. B. (2011). The design of approximation algorithms. Cambridge University Press.
Richard, L., J Douglas, F., & Annette, M. (2016). Numerical analysis. Sengage.

</td></tr>
<tr><td>Module Structure</td><td>11 classes including lectures and problem sets corrections</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Selected Master programmes</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/19</td></tr>
</table>

Environmental Economics and Energy Finance [FIN60173]

Module Coordinator		Moslener, Ulf			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Principles of Finance , Basics in Economics			

Content	This course first provides an introduction to environmental economics. This is essentially looking at environmental problems through an aconomic lens and thinking about how economics can help dealing with environmental problems within an competitive market environment. Policy instruments such as emission taxes, emissions trading or subsidies are discussed. All of this - in the first part of the course is explicitly done from the pespective of the whole society ("the policy maker", in a way). The second part of the course will then take the perspective of an investor who is confronted with policy and regulation and often additional investment subsidies specifically directed towards promoting renewable energy. We discuss characteristics that fundamentally distinguish the power and power infrastructure market from the market for many other assets and look at applied examples of instruments of investment support as well as investment cases. Topics include: • Economic fundamentals such as social optimum, public goods, market failure, market based instruments • Primers in (i) climate change & climate policy; (ii) energy markets & energy policy • Structure of energy project finance transactions (& comaring that to corporate finance) • Financing instruments, role of public finance institutions

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge: On successful completion of the module, students will be familiar with the key concepts of environmental economics, the rationale for government intervention and regulation (e.g. externalities); i.e. they can
• explain the main environmental (in particular climate) policy instruments, basics of energy markets and technologies
• summarise the dimensions of the current international climate policy / climate finance debate
• outline the major challenges in financing clean energy around the world.
Skills: On successful completion of the module, students will have the ability to analyse the structure of renewable energy investment projects. This is complemented with the ability to develop an informed perspective towards regulatory approaches in the area of climate or the energy sector, i. e.
• differentiate between the (societal) economic perspective and the (individual) business perspective
• analyze policy instruments that can correct the so-called “market failures” and which are frequently applied by governments
• identify applied examples of instruments of investment support as well as investment cases
• develop a well founded opinion about project finance proposals in the area of renewable energy
Competencies: On successful completion of the module, students are qualified to assess differences across regulatory schemes with respect to both the economic (societal) and financing perspectives. The participants are in a position to draft elements of project finance transaction in the renewable energy space and form an opinion about sources of financial risk within the project structures.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>Teaching will be mainly based on interactive lectures and the discussion of case/examples. There will be a number of student presentations complemented by in-class discussions. There will be very view pre-recorded Video-Lectures.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><th>Type of examination</th><th>Duration or length</th><th>Performance Points</th><th>Due date or date of exam</th></tr>
<tr><td>In-class presentation plus active participation in discussions</td><td></td><td>60</td><td>During course</td></tr>
<tr><td>Written exam</td><td>60 min.</td><td>60</td><td>Exam week</td></tr>
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</table>

Recommended Literature	Perman, P., Y. Ma, J. McGilvray and M. Common (2003) Natural Resource and Environmental Economics. Addison Wesley, 3rd edition. ISBN-10 0273655590 Kolstad, C.D. (2010) Environmental Economics, Oxford University Press, 2nd edition. ISBN-10 9780199732647 On much of the subject there is not yet a well-established body of literature. Some additional course material may be provided during the course if appropriate.
Module Structure	A transition towards a so-called net-zero economy is a target of many countries around the world. Environmental or sustainability-related challenges are on the agenda of businesses and policy makers. The module is structured as follows: - Environmental Economics Background (Providing the perspective of the socienty - as opposed to an individual investor's perspective; providing fundamental reasons for government intervention; policy instruments and processes) - Technical background (on climate change and electricity markets) - Renewable energy investment and investment support - a project finance perspective (this makes the commercial perspective on an investor explicit; basics about structuring project finance transations) Student presentation topics will be assigned and the presentations used in order to cover more of the "hot issues" connected to the field.
Usability in other Modules/Programmes	Bachelor Thesis (BSc_BT)
Last Approval Date	2025/04/09

The Future of Banking and Finance in a Digitalised World [FIN50090]

Module Coordinator		Fischer, Leonhard H.			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		-			
Content		This elective challenges the students to think about the risks and opportunities for banking and the finance industry today and the changes driven by technology. The students shall analyse what have been the key drivers of the banking industry of the past and in which way digitalization challenges them and opens the door to a new world of finance . To achieve this, the elective is structured into three parts: - The first part describes where the traditional banking business model has come from and by which forces it has been transformed. - In the second part we will discompose the classic business model into its different value chains, before exploring and discussing the impact that technology has and will have on these value chains, opening the door to a new world of finance and banking. - In the third part we will discuss the new world of finance, ranging from banking to venture capital. For that, the students will be divided into groups, each of which will represent either the leadership of a bank, a regulator or an alternative asset form, among others. The goal is that the teams will use their learnings from modules 1 and 2 in order to analyse the challenges and opportunities of this new world of finance. Ultimately each group will be asked to present and defend their findings in the simulated environment of a challenging investor and analyst meeting.			

Intended Learning Outcomes	Short description of module: This module analyses the intrinsic value proposition of banking and asks the question 'what will be left of it in the age of digitalization?'. Special focus is given to: (i) the impact technology has on the different business models that comprise banking and finance. The challenges stemming from new regulation and the open question of globalization. (ii) an exploration of potential future banking and financial service business models, ranging from banking to private equity, ETF and all the way to venture capital. As part of the module, strategies of different incumbent players will be analysed and compared. **Knowledge:** On successful completion of the module: - students will have gained an understanding of the value proposition and the value chains of banking and finance ie. they can identify the principle underlying business model - they can explain the different variations of business models ie. investment bank v private bank etc. - they can outline the key drivers of profitability and risk -they understand the reasons why alternative asset managers have grown so massively in the last decade **Skills:** On successful completion of the module: - students will have the ability to analyze the different challenges of the underlying business model in the world of finance as a result of technologies and new forms of regulation ie. they are able to evaluate the potential challenge of digitalization in the underlying value chain of the different business models in finance - they will be able to assess the new regulatory regime and its impact on profitability - they will be able to analyse the challenges posed to traditional banks from new non-bank competitors **Competence:** On successful completion of the module: - students will be familiarized with the strategic challenges to the different elements of the classical banking business model and will evaluate the validity of different strategies - in addition they will be able to understand that there is a new world of finance growing that goes far beyond the traditional business models
Forms of teaching, methods and support	Interactive lectures, case study analysis and group participation.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Written exam</td><td>50 Minutes</td><td>50</td><td>Exam Week</td></tr>
<tr><td>Team presentation</td><td>30 Minutes</td><td>50</td><td>During module</td></tr>
<tr><td>Individual performance</td><td></td><td>20</td><td>Continuos assessment</td></tr>
</table>
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<tr><td>Recommended Literature</td><td>Compulsory:

1. The Economics of Banking - Kent Matthews and John Thompson
2. Techs raid on the banks - Economist, 4th May 2019
3. What comes after Bretton Woods II – Economist, 15th August 2019

Optional:

1. The Richest Man Who Ever Lived: The Life and Times of Jacob Fugger - Greg Steinmetz
2. Es Waren Einmal Banker: Warum das moderne Finanzsystem Gescheitert ist - Leonhard Fischer (German speakers only)</td></tr>
<tr><td>Module Structure</td><td>1. What is the traditional value proposition of banks and how is it translated into different business models?
2. Different banking models from investment banking to retail banking
3. The impacts of technology and new regulation and the meteoric rise in non-bank competitors
4. The technological challenge and how digitalisation will potentially shape the future of finance
5. Strategic alternatives for banking business models to adopt
6. Conclusion</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>-</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

Leadership [SOC60228]

Module Coordinator		Aktay, Basak			
Programme(s)		Bachelor of Science			
Term		7th semester			
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	Strong leadership is essential to individual and organisational growth and success. The goal of this course is to lay a strong foundation for building and leading high-performing teams effectively. The students will receive a set of strategies and techniques to identify their personal leadership styles and will be able to apply the theoretical knowledge gathered in this course. • In the first module of the course major leadership theories, concepts, and research findings will be examined in depth and elaborated in a multitude of case studies. • In the next module, emotional intelligence, personality traits, perception, and decision-making will be studied from an individual perspective. Students will be able to conduct assessments to identify their personality traits and reflect on their personality characteristics paving the way for authentic leadership. • The third module will focus on group-level concepts and models that are critical to building high-performing teams, such as group formation, motivation, power, and conflict management. • Finally, the course will apply current theories and frameworks to explore leadership in today's dynamic and uncertain business environment, considering digital transformation, globalization, diverse teams, and the ever-changing challenges brought on by rapid innovation. Many case studies involving extensive in-class group work, and a group assignment on the analysis of a specific selected leader will be incorporated into the course. In this highly interactive course, the students are expected to contribute actively during the classes on the several topics studied.
Intended Learning Outcomes	After completing the Leadership module, students will be able to: • comprehend key leadership concepts • distinguish between leadership styles • get an insight of their own personality characteristics that could impact their leadership style • recognize and implement effective leadership principles at the individual level • comprehend key concepts in group dynamics • understand the factors that influence motivation, power, and conflict management. • analyse and evaluate current leadership paradigms. • present their opinions and ideas in front of an audience
Forms of teaching, methods and support	• Strong in-class participation • Self-assessment • Team assignments and presentations Active involvement in class as well as openness to bring in and reflect own experiences are key for the student’s individual development.

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date</td></tr>
<tr><td>Final exam</td><td>60 min</td><td>60</td><td>Exam Week</td></tr>
<tr><td>Team assignments and presentations</td><td>25-30 minutes</td><td>60</td><td>End of course</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>

Robbins, Stephen P. / Judge, Timothy A. (2019): Organizational behavior, 18th edition, Pearson. (or 17th edition 2018)
Northouse, Peter G. (2018): Leadership – Theory & Practice, 8th edition, Sage. (or 7th edition)

All other reading or case material will be provided.
</td></tr>
<tr><td>Module Structure</td><td><u>Topics covered</u>
Theory of Leadership (3 sessions)
Leadership – Individual Level (2 sessions)
Leadership – Group Level (2 sessions)
Leadership in Modern Global Business Environment (1 session)
Group Assignment (2 sessions)
Course Review (1 session)</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Useful for any further modules with the focus on management and organisational behaviour</td></tr>
<tr><td>Last Approval Date</td><td>2025/05/06</td></tr>
</table>

Consumer Behaviour [MGT60195]

Module Coordinator		Aydinli, Aylin			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Marketing			
Content		Marketing begins and ends with consumers – from determining consumers' needs to providing consumer satisfaction. As such, a clear understanding of consumers' buying behavior is critical in successfully managing the marketing function. The purpose of this course is to introduce you to the study of consumer behavior. The role of research and the tools of scientific inquiry will be emphasized in order to illuminate the underlying behavioral and psychological constructs. Depth of understanding of these underlying constructs is a key to success in today' s complex marketplace. Product lifecycles are shorter, market segments are smaller and more dispersed, and the competition is more intense than ever before.			
Intended Learning Outcomes		Upon completion of this course, students: • Will have learned the key behavioral and psychological concepts and will have developed the intellectual ability to apply them in analyzing marketing situations. • Will be able to understand consumers' consumption–related behaviors • Will be able to develop and evaluate marketing strategies intended to influence consumption–related behaviors.			
Forms of teaching, methods and support		Lectures, in-class exercises, cases, active discussions and group work			

<table>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Group Project</td><td></td><td>60 points</td><td>Last day of class</td></tr>
<tr><td>Individual Assignments & In Class Work</td><td></td><td>60 points</td><td>Throughout the semester</td></tr>
</table>
</td></tr>
<tr><td>Recommended Literature</td><td>Will be provided in class.</td></tr>
<tr><td>Module Structure</td><td>The contents of the module are broken down into the following components:

1. Consumer Focused Strategy

2. Scientific Approach to Consumer Behavior

3. Consumer Information Processing
a. Perception, Attention, and Memory
b. Attitudes and Attitude Formation

4. Consumer Decision Making
a. Judgment and Decision Making
b. Individual Differences and Self-Related Processes

5. Consumer Social Influences
a. Social Influence Principles and Persuasion
b. Cross-Cultural Consumer Behavior</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>B.Sc.-Thesis</td></tr>
<tr><td>Last Approval Date</td><td>2025/04/08</td></tr>
</table>

Financial Crimes [FIN70982]

Module Coordinator		Mensi, Gian Marco; Santoni, Alessandro			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Introductory accounting and financial statement analysis skills.Introductory Banking.Basic concepts in the fields of statistics, probability, and data science.			

Content	This is an introductory course that will give you a solid understanding of core forensic accounting and an overview of financial crimes, fraud, bribery and corruption risks. The 2024 edition will see the inclusion of a section dedicated to data science and Artificial Intelligence (AI) applied to fraud prevention. 1. Forensic accounting: spotting potential fraud analyzing financial statements a) Earnings manipulation b) Cash-flow manipulation c) Other metrics manipulation 2. Case studies on financial accounting frauds 3. Cryptocurrencies and financial crimes a) Crypto assets regulation in the EU (MiCA) and in the US b) Crypto assets basic concepts c) Crypto crimes with case studies 4. Statistical tools to identify fraud: Benford's Law and its practical application 5. Fraud prevention/identification using data science and AI 6. Operational Risk, Money Laundering a) Financial Crimes phases, commonalities b) Money Laundering Strategies c) Red flags Prerequisites: accounting and financial statement analysis skills, banking, basic statistical and probability concepts.

<table>
<tr><td>Intended Learning Outcomes</td><td>Knowledge:
On successful completion of this module, students will have a thorough comprehension of the basic definitions, theories and concepts of financial crimes, i.e. they can:
• analyse financial crimes aspects from an accouting point of view,
• spot potential fraud analyzing financial statements
• describe AML requirements,
• understand the Money laundering stages
• recognize red flags related to money laundering
• understand basic concepts related to crypto assets and related frauds
• elemts of crypto markets regulation in the EU and in the US
• introduction to statistical tools used in forensic analysis
• understand basic concepts about the deployment of data science and AI systems to combat fraud
Skills:
On successful completion of this module, students will have the proven ability to apply financial crimes prevention concepts and tools for financial analysis, bank management and crypto assets handling purposes

Competencies:
On successful completion of this module, students appreciate the importance of financial crimes prevention in safeguarding the integrity of capital markets and are capable of applying analytical skills required by the financial analyst profession, acting as at the interface between financial crimes specialists and other bank departments.</td></tr>
<tr><td>Forms of teaching, methods and support</td><td>This course has a practical focus and is open to anyone who is interested in the subject. The course has a mix of theory (mainly based on FATF) and several business cases.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td><table>
<tr><td>Type of Examination</td><td>Duration or Length</td><td>Performance Points</td><td>Due date or date of exam</td></tr>
<tr><td>Exam</td><td>90 minutes</td><td>90</td><td>Exam Week</td></tr>
<tr><td>Class Presentation</td><td></td><td>30</td><td>during the course</td></tr>
</table></td></tr>
<tr><td>Recommended Literature</td><td>Few suggested readings. material will be distributed in class.
1) Schilit, Perler, Engelhart (2018). Financial Shenanigans: How to Detect Accounting Gimmicks and Fraud in Financial Reports. McGraw Hill, 4th edition
2) Nigrini (2020). Forensic Analytics. Wiley, 2nd edition
3) Financial Crime in the 21st Century, Law and Policy, Nicholas Ryder, University of the West of England, UK
4) Financial Crimes Michael Levi, The Oxford, Edited by Michael Tonry</td></tr>
</table>

Module Structure	In this module students will develop deep understanding of the most important dimensions of financial crimes risk and learn about advanced concepts how to measure and manage this risk.
Usability in other Modules/Programmes	Bachelor Thesis (BSc_BT)All other modules of the thematic area FINANCE & BANKING.
Last Approval Date	2025/05/06

Collective Intelligence [MGT60239]

Module Coordinator		Klingebiel, Ronald			
Programme(s)		Bachelor of Science			
Term		7th semester			
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		Interest in applying rigorous analysis to organizational phenomena of social aggregation			
Content		The course presents insights into harnessing the collective to improve organisational outcomes. We briefly review the limits of individual wisdom and foresight under uncertainty, and then focus on the many forms of collective intelligence that can enhance it. We consider collective information provision, including incentivised forecasting schemes. As part of this, students participate in a live prediction market. We then move on to collective decision making, considering both screening and selection tasks. The social arrangements found in organisations, such as decision chains, cascades, and hierarchies, are examined in detail. We review mechanical phenomena, such as those driven by conditional probabilities, as well as behavioural phenomena that arise in collective systems, such as confidence propagation. We also touch on how a combination of human and non-human agents can augment collectives, addressing some biases while creating others.			
Intended Learning Outcomes		Upon course completion, students are expected to be able to: • Analyse structures of collective thinking in a variety of organizational settings • Identify and evaluate social arrangements for collective reasoning, forecasting, and decision making • Critically assess the impact potential of communication technology on organizational effectiveness • Apply this understanding to models of strategic advantage or industry formation			

<table>
<tr><td>Forms of teaching, methods and support</td><td>Cases, simulations, discussion, lecture. The module relies on the interactive elements. We spend a lot of time discussing cases and experiencing gamified organizational contexts. Software/material for the course is cost-free to the student. Access instructions is provided in class.</td></tr>
<tr><td>Type of Assessment(s) and performance</td><td>
<table>
<tr><td>Type of examination</td><td>Duration or length</td><td>Perfomance points</td><td>Due date or date of exam</td></tr>
<tr><td>Group presentation</td><td>10 mins</td><td>25</td><td>During course</td></tr>
<tr><td>Class participation</td><td>throughout</td><td>10</td><td>During course</td></tr>
<tr><td>Term paper</td><td>~2500 words</td><td>85</td><td>End of course</td></tr>
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</td></tr>
<tr><td>Recommended Literature</td><td>From Emile Durkheim to H.G. Wells, there is wealth of literature touching upon the conceptual underpinnings of collective intelligence. The Marquis de Condorcet was among the first to introduce rigorous analyitics. Feel free to explore.
The knowledge frontier moves quickly and there is no single text that captures it all. Interested students can optionally prepare by reading the following:
An sweeping overview: Mulgan, G. (2018) Big mind: How collective intelligence can change our world. Princeton University Press
A light-hearted intro: Critchlow, H. (2022) Joined-up thinking: the science of collective intelligence and its power to change our lives. Hachette UK
A technical approach: Brandt, F., Conitzer, V., Endriss, U., Lang, J., & Procaccia, A. D. (Eds.) (2016) Handbook of computational social choice. Cambridge University Press</td></tr>
<tr><td>Module Structure</td><td>The course begins with a discussion of good and bad ways of harnessing the collective intelligence of organisational members. We cycle through prominent application contexts, such as strategic prediction or innovation choice. We study the performance impact of various modes of organising, including such central features as hierarchies or decision chains. We consider the growing influence of machine intelligence and finish with competitive considerations. We dicuss how harnessing collectives to outperform others in rivalrous situations entails tradeoffs between, for example, short-term performance benefits through accuracy and longer-term benefits of cooperation and trust.</td></tr>
<tr><td>Usability in other Modules/Programmes</td><td>Strategy courses, management courses, decision-making courses, bachelor thesis</td></tr>
<tr><td>Last Approval Date</td><td>2025/04/03</td></tr>
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