Module Catalogue | Modulhandbuch (SPO 2012)

Master in International Finance and Economics (M.Sc.)

Summer Semester 2025

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Technische Hochschule Nürnberg

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List of abbreviations

/	„oder“ / „or“
,	„und“ / „and“
;	„und/oder“ / „and/or“
B-IB	Bachelor in International Business
B-IBT	Bachelor in International Business and Technology
ECTS	European Credit Transfer and Accumulation System
Kl	Klausur/ Examinations
Kol	Kolloquium / Colloquium
MA	Masterarbeit / Master Thesis
M-IFE	Master in International Finance and Economics
M-IMA	Master in International Marketing
Ref	Referat / Presentation
schrP	schriftliche Prüfung / Written Examination
SPO	Studien- und Prüfungsordnung/ Study Regulations
StA	Studienarbeit / Assignment paper
SWS	Semesterwochenstunden / Weekly hours per semester
TN	Teilnahmenachweis / Attendance required

1 Study Plan (Studienplan)

1.1 Mandatory Courses

Mandatory Modules		Sub modules	SWS	Suggested semester	Offered in/ language	Examination	Weighting in case of sub modules	ECTS
1. Fundamentals of Financial Management	1.1	International Financial Accounting	2	1. sem.	WS: English SS: English	exam (90)	1:1	6
	1.2	Intermediate Microeconomics	2	1. sem.	WS: English SS: English	exam (90) online bonus exam		
2. Corporate Valuation and Value Based Management	2.	Corporate Valuation and Value Based Management	2	1./2. sem.	WS: German SS: English	exam (90). presentation (weight 50:50)		6
3. International Capital Markets	3.	International Capital Markets	4	1./2. sem.	WS: English SS: ---	exam (90)		6
4. Global Financial Institutions and Investment Banking	4.	Global Financial Institutions and Investment Banking	4	1./2. sem.	WS: English SS: ---	exam (90)		6
5. Applied Quantitative Methods	5.	Applied Quantitative Methods	4	1./2. sem.	WS: English SS: English	exam (90)		6
6. International Economics	6.	International Economics	4	1./2. sem.	WS: English SS: ---	exam (90)		6
7. Applied International Research Project	7.	Applied International Research Project	4	2. sem.	WS: English SS: English	group report and presentation/discussion (weight 40:60)		6
8. Master Thesis	8.	Master Thesis	2	3. sem.	WS: English SS: English	MA; Kol		18
9. Electives	9.	*Requirements:* *1. At least 6 ECTS in the field FINANCE and at least 6 ECTS in the field ECONOMICS!* *2. Not more than 6 ECTS in the field GENERAL MANAGEMENT*						

1.2 Elective Courses

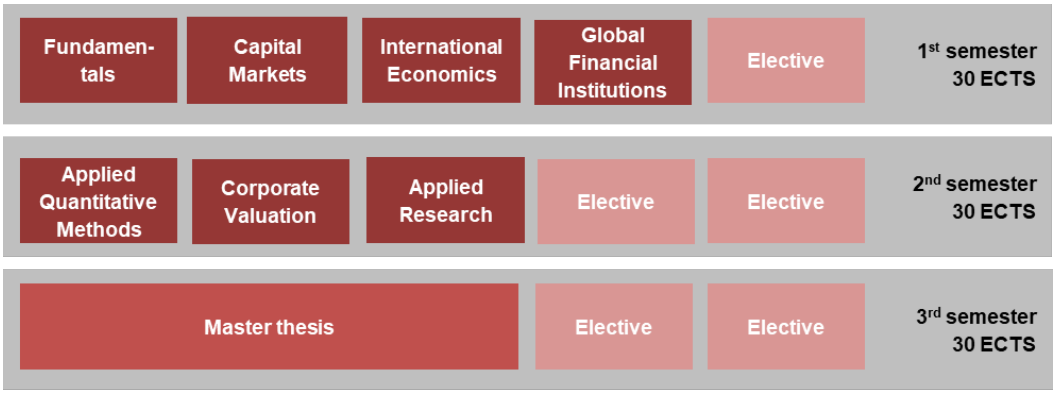
Requirements:

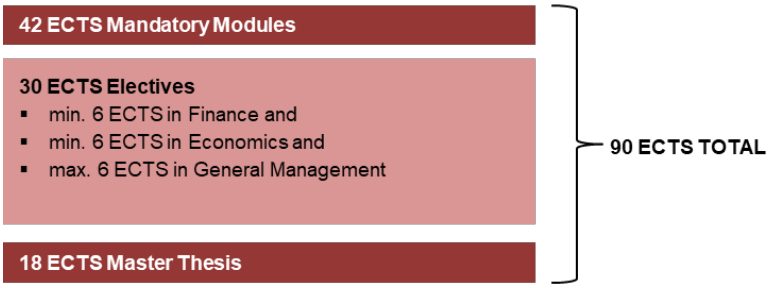
1. At least 6 ECTS in the field FINANCE
2. At least 6 ECTS in the field ECONOMICS
3. Not more than 6 ECTS in the field GENERAL MANAGEMENT

Elective Modules	Field	SWS	Suggested semester	Offered in/ language	Examination	ECTS
Mergers & Acquisitions	Finance	4	1./2./3. sem.	WS: English **NOT in WiSe25/26** SS: German	exam (90); presentation (weight 50:50)	6
Innovation Financing and Venture Capital (Formerly: Equity Financing and Venture Capital)	Finance	4	1./2./3. sem.	SS: English/German	presentation (100%)	6
Equity and Bond Investments	Finance	4	1./2./3. sem.	WS: --- SS: English	exam (90); equity investment analysis (presentation) (weight 51:49)	6
Case Studies Fintechs and Financial Innovation (Formerly: Case Studies in Finance and Capital Markets)	Finance	4	1./2./3. sem.	WS in German SS in English Not in SS25	exam (90); presentation (weight 50:50)	6
Financial Risk Management	Finance	4	1./2./3. sem.	WS: English SS: ---	exam (90)	6
Portfolio Management and Risk	Finance	2	1./2./3. sem.	WS: German SS: English	exam (90); presentation (weight 51:49)	6
Bank and Credit Risk Management	Finance	4	1./2./3. sem.	WS: English SS: German	exam (90); presentation (weight 50:50)	6
Derivatives	Finance	4	1./2./3. sem.	WS: --- SS: English	exam (90)	6
Economics of Emerging Markets and Development	Economics	4	1./2./3. sem.	WS: --- SS: English	exam (90) (70%), paper presentation (30%)	6
Economics of European Integration	Economics	4	1./2./3. sem	WS English SS: ---	exam (90 min.)	6
Using Big Data to solve Problems in Business Administration and Economics	Economics	4	1./2./3. sem.	WS: --- SS: English	presentations/ Written Exam (90 min) (weight 40:60)	6
Behavioral Economics	Economics	4	1./2./3. sem.	WS: English SS: ---	presentations/ exam (90) (weight 40:60)	6
Strategic Management in a Global Context	General	4	1./2./3. sem.	WS: English SS: English	presentation/ case study (50%) / examination (90 min, 50%)	6
Negotiation Strategy/ Verhandlungsstrategie a) Basis and application of negotiation strategies b) Cross-cultural Negotiations and Relationship Management	General	2 2	1./2./3. sem.	WS: --- SS: --- **No longer offered in MIFE**	paper + presentation (roleplay or equivalent) (weight 50:50)	6
Management Accounting/ Controlling	General	4	1./2./3. sem.	WS: --- SS: English	exam (90)	6
Data Analytics with Python	General	4	2./3. sem.	WS: English SS: ---	practical examination + written exam (weight 50:50)	6

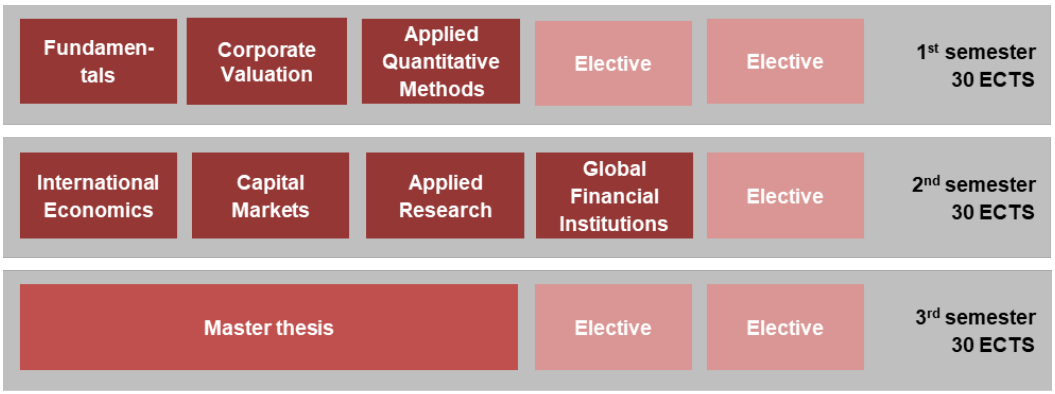
2 Suggested Schedule (flexible scheduling possible)

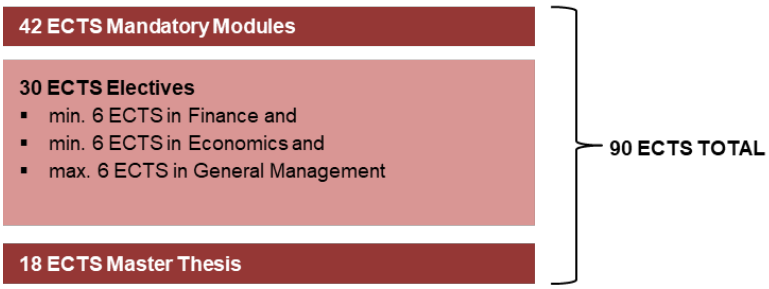
2.1 Start in Winter Semester





2.2 Start in Summer Semester





3 Module Descriptions

3.1 Prerequisites to attend courses

Prerequisites to attend courses:

The general eligibility to attend M-IFE courses is usually assessed during the application period for the Master's program and include a completed full Business/Economics Bachelor's degree with 210 ECTS and a focus on finance/economics as well as a high level of English (IELTS 7.0/ TOEFL iBT 100).

Special prerequisites for certain courses may be detailed in the respective module description.

3.2 Mandatory Modules

3.2.1 Fundamentals of Financial Management

Module coordinator	Prof. Dr. Figlin, Prof. Dr. Jäckle
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester (in English) ☒

3.2.1.1 Submodule 1: International Financial Accounting

Lecturer	Prof. Dr. Figlin
Credit points	3 ECTS
Total workload	90 hrs.
Method of examination and grading procedure	Final Exam (90 min)
Prerequisites	Accounting Basics and basic knowledge of International Financial Reporting Standards (IFRS) for single entities
Learning objectives and skills	The module provides advanced knowledge and analytical capabilities in International Accounting for consolidated entities based on International Financial Reporting Standards (IFRS). One of the main learning outcomes of the course is to enable students to understand and to apply IFRS in group accounting. On the other hand, this understanding should help them to interpret financial numbers in consolidated financial statements of international corporations. For these purposes, students learn about the initial and subsequent consolidation process and alternative approaches to goodwill accounting. They learn how to look at and analyze a company from a group perspective, getting to know the fundamentals of debt and earnings consolidation. Accounting for joint ventures and associated companies helps them to understand the alternatives to full consolidation in order to make economically advantageous decisions in later professional life. Understanding the principles of segment reporting in a group prepares the students for in-depth analysis of both the entire company and its individual operating segments.

	Course participants are able to analyze consolidated financial statements and can draw practice-oriented conclusions from their analysis. They can present and evaluate relevant information in written form. They are able to answer questions on this matter comprehensively and can explain relevant interrelationships.
Module content	The course covers the amongst other the following topics: ■ Essentials of Accounting & Summary of IFRS Basics ■ IFRS Financial Statements (IAS 1/IAS 7) ■ Business Combinations (IFRS 3) ■ Consolidated Financial Statements (IFRS 10) ■ Joint Arrangement (IFRS 11) ■ Investments in Associates (IAS 28) ■ Operating Segments (IFRS 8) ■ Income taxes (IAS 12) ■ The effects of changes in foreign exchange rates (IAS 21)
Teaching and learning method	This module consists of a lecture part and many exercises and practices. In the lecture part the students will be endowed with the necessary knowledge of the rules and techniques to understand and to analyze an annual report. Current reports of international companies will be provided for independent research by the students.
Module compatibility	---
Literature (excerpt)	■ IFRS texts ■ Krimpmann, A.: Principles of Group Accounting under IFRS, Wiley ■ Mirza/Orrell/Holt: IFRS, Practical Implementation Guide and Workbook, Wiley ■ Annual Reports (will be provided during the lecture)
Workload in full hours (= 60 minutes)	■ 23 hrs. Contact Hours ■ 15 hrs. Preparations of classes, mandatory reading ■ 29 hrs. Preparation for examinations/of seminar papers/ presentations ■ 21 hrs. Post processing of the lecture Total workload: 90 hrs/ 3 ECTS

3.2.1.2 Submodule 2: Intermediate Microeconomics

Lecturer	Prof. Dr. Jäckle
Credit points	3 ECTS
Total workload	90 hrs.
Method of examination and grading procedure	- Final Exam (90 min) - Online Bonus Exam (after about 2/3 of the lecture, passing the bonus exam improves the grade in the final exam by 0.3)
Prerequisites	Introductory Microeconomics, Business Mathematics
Learning objectives and skills	This module enables students to apply the economic tool kit of (rational) decisions making in order to describe and evaluate decisions under 1) certainty, 2) uncertainty and/or 3) asymmetric information. Students will be capable of: - analyzing the risk-return trade-off, - analyzing the functioning of competitive insurance markets, - assessing market failure arising from asymmetric information - solving basic problems of incentive compatibility. In addition to the classical rational choice theory this module will enable students to understand and assess basic features of prospect theory (reference points, endowment effect and loss aversion) the most important concept in the field of behavioral economics.
Module content	The course covers the following topics: ■ Review: Decisions under Certainty ■ The Risk-Return Trade-Off ■ Loss Aversion and the Endowment Effect** ■ Decisions under Uncertainty ■ The Economic Rational for Securities and Insurance Markets ■ Pitfalls for the Expected-Utility Maximizer** ■ Adverse Selection ■ Moral Hazard ■ Cases studies: Asymmetric Information on Insurance and Credit Markets ** Only included if sufficient time is available towards the end of the semester. These topics will be discussed in great detail in the course Behavioral Economics.
Teaching and learning method	This module consists of a lecture part and many take-home exercises. Students will receive detailed solutions to the exercises. We will also discuss case studies in class.
Module compatibility	This course provides important basic knowledge for the further understanding of models and concepts from the fields of economics and finance
Literature (excerpt)	■ Angner, Erik, A Course in Behavioral Economics, Palgrave Macmillan, 3rd. edition, 2021. ■ Just, David R., Introduction to Behavioral Economics, 2014. ■ Kreps, David M., Microeconomics for Managers, Princeton University Press; 2nd edition, 2019. ■ Varian, Hal R., Intermediate Microeconomics with Calculus, W. W. Norton & Company; 1st edition, 2014.

	■ Varian, Hal R. and Theodore C. Bergstrom, Workouts in Intermediate Microeconomics, W. W. Norton & Company; 9th edition, 2014.
Workload in full hours (= 60 minutes)	■ 23 hrs. Contact Hours ■ 15 hrs. Preparations of classes, mandatory reading ■ 29 hrs. Preparation for exercises ■ 21 hrs. Post processing of the lecture Total workload: 90 hrs/ 3 ECTS

3.2.2 Corporate Valuation and Value Based Management (Unternehmensbewertung und wertorientierte Unternehmensführung)

Module coordinator	Prof. Dr. Honold
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in German) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min)/ Presentation (weight 50:50)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	One of the main qualification targets of the course is to enable students to analyze the generation of value in enterprises for a single period (Value Based Management), leading as an accumulation to the enterprise value (Corporate Valuation). In order to generate a structured and detailed approach students are able to use value drivers and to separate between current and future value to structure the evaluation tools. Therefore, students learn to develop and apply comprehensive excel tools with high sophisticated value driver analysis on several companies from different industries supported with a company specific comprehensive research reports, allowing students to deeply understand and perform the process themselves. They are able to answer questions on this matter comprehensively and can explain the value generating process with a periodical and an accumulated view on value of companies.
Module content	■ The course covers the following topics: ■ Analysis and evaluation of shareholder and stakeholder approaches ■ Description and differentiation of corporate valuation and value based management ■ Foundation of the theoretical background of valuation ■ Foundation of the theoretical background of financial planning for valuation and its practical application ■ Theoretical and practical determination of cost of capital incl. risk and taxes ■ Comparison of the different valuation approaches and their obstacles in applying on different kind of companies ■ Application of value based management on practical examples and their limits with the extension of future potentials ■ Application of corporate valuation on practical examples ■ Cases

Teaching and learning method	This module consists of a lecture part and an independent research part. In the lecture part the students will be endowed with the necessary knowledge and analytical tools in valuation and value based management. Additionally topics on current issues and case studies will be provided for independent research by the students. Students have to present their findings in an oral presentation.
Module compatibility	Corresponding to the module „Unternehmensbewertung und wertorientierte Unternehmensführung“ in Master Program Betriebswirtschaftslehre. Including useful interfaces with modules “Equity Financing and Venture Capital” as well as “Equity and Bond Investment” (available as Electives), and potentially with Master thesis.
Literature (excerpt)	■ Brealey/Myers (2020): Principles of Corporate Finance, 13th ed, McGraw-Hill Education, New York ■ Koller/Goedhart/Wessels (2020): Valuation, 7th ed., Wiley, Hoboken ■ Damodaran (2012): Investment Valuation, 3rd ed., Wiley, Hoboken ■ Daves./ Ehrhardt/ Shrieves (2004): Corporate Evaluation; South Western ■ Stewart (1999): The Quest for Value, Harper Business, New York ■ Rappaport (1998): Creating Shareholder Value, 2nd ed., Free Press, New York ■ Richter/ Honold (2000): Das Schöne, das Unattraktive und das Häßliche an EVA & Co., in Finanz-Betrieb, Vol. 2 2000, Issue 5, p. 265-274 ■ Honold/Fülbier/Weese/Schmusch/Meyer/Brand (2017): Internationaler Vergleich der Marktwert-Buchwert-Gegenwartswert-Lücke im Zeitablauf. In: CORPORATE FINANCE, 01-02/2017, p. 44-51 ■ Honold/Fülbier/Weese (2016): Zukunftspotentiale aus Kapitalmarktsicht - Marktwert-Buchwert-Gegenwartslücke am Beispiel der DAX-Unternehmen. In: Corporate Finance, 7-8 2016, p. 249-264 ■ Case Studies + additional reading for special topics.
Workload in full hours (= 60 minutes)	■ 42 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 18 hrs. Post processing of the lecture ■ 45 hrs. Preparation for presentation ■ 45 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.2.3 International Capital Markets

Module coordinator	Prof. Dr. Streitferdt
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Exam (90 min)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	After successful participation in this module the students can: ■ describe the institutional framework of international capital markets ■ name different the different investor and debtor types on international capital markets and explain their different goals. ■ develop valuation formulas based on arbitrage principles in order to determine the fair value of derivatives (especially exchange rate derivatives). ■ interpret the most popular formulas for option pricing mentioned below ■ apply the CAPM using real life data in order to calculate fair market prices for securities. ■ develop solutions to problems arising from the application of the CAPM in an international context. ■ describe the most important heuristics occurring in financial decision making in order to explain mispricing on international capital markets. ■ explain herd behavior using different theoretical models in order to understand market bubbles on international capital markets.

Module content	The course covers the following topics: ■ International capital market participants ■ The banking system ■ Exchange rate risk, political risk and cultural aspects on international capital markets ■ Valuation of foreign exchange derivatives ■ Garman-Kohlhagen formula ■ Risk neutral valuation ■ Black-Scholes formula ■ Valuation of interest rate options using binomial trees ■ Portfolio Theory and the CAPM ■ The International CAPM ■ Application of the CAPM in an international context ■ Information efficiency on capital markets and behavioral finance ■ Heuristics and their impact on financial decision making ■ Informational cascades
Teaching and learning method	This module consists of lectures and case studies. In the lecture, students will be introduced to different theoretical economic concepts that they will apply at home on real world cases. The case preparation will take place in three steps: Individual preparation at home, a small group discussion in a group of students and a classroom discussion that is moderated by the teacher.
Module compatibility	Including useful interfaces with modules “Equity and Bond Investments” (Elective), “Corporate Valuation and Value Based Management” (Mandatory), “Derivatives” (Elective) and “Portfolio Management und Risiko” in Master Program Betriebswirtschaftslehre (available as “Elective Portfolio Management and Risk” in MIFE in German language), and potentially with Master thesis.
Literature (excerpt)	■ Brealey, R.A./Myers, S.C/Allen, F.: Principles of Corporate Finance, 12th edition, 2017, McGraw-Hill. ■ Chisholm, A.A.: An Introduction to international capital markets, 2nd edition, 2009, Wiley & Sons. ■ Fabozzi, J.F./Modigliani, F.P./Jones, F.J.: Foundations of Financial Markets and Institutions, 4th Edition, 2013, Pearson. ■ Forbes, W.: Behavioural Finance, 2009, Wiley & Sons. ■ Sercu, P.: International Finance, 2009, Princeton University Press. ■ Shleifer, A.: Inefficient Markets, 2000, Oxford University Press. ■ Wiersema, U.F., Brownian Motion Calculus, 2008, Wiley & Sons
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 20 hrs. Preparations of classes, mandatory reading ■ 22 hrs. Post processing of the lecture ■ 20 hrs. Team work/ tutorials ■ 70 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.2.4 Global Financial Institutions and Investment Banking

Module coordinator	Prof. Dr. Weese
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Exam (90 min, 100%)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	The main learning outcomes of the course are to enable students to analyze and assess types and business models of global financial institutions, with a particular focus on investment banking activities, and to evaluate regulatory requirements for banks and insurance companies. Seminar participants are able to analyze drivers, critical factors and risks of the most important types and business models of global financial institutions such as banks, insurance companies and asset managers. They understand the institutional setup, and evaluate purposes and challenges of these global financial institutions. Students assess opportunities, constraints and problems regarding each single business model. In particular, students explain and evaluate the areas of investment banking and capital markets activities of banks. Furthermore, seminar participants distinguish between different capital concepts for financial institutions, and they evaluate respective impacts on business decisions. In particular, students analyze and apply regulatory requirements for banks under Basel III. Furthermore, they discuss and evaluate the capital requirements for insurance companies under Solvency II.
Module content	The course covers the following topics: ■ Banking business: retail banking, commercial banking and investment banking ■ Insurance business: life insurance and non-life insurance ■ Asset management business ■ Capital concepts: IFRS accounting capital versus regulatory capital ■ Bank capital requirements under Basel III and capital requirements for insurance companies ■ Equity & Debt Capital Markets ■ Financial Advisory: M&A and Corporate Restructuring ■ Sales & Trading

Teaching and learning method	This module consists of a seminar-style lecture. In the lecture, the most important activities of global financial institutions, with a focus on investment banking, and regulatory requirements, with a focus on Basel III, are explained in detail and illustrated by numerical examples. Students are encouraged to raise their questions, in particular related to practical issues. Students directly apply theory and concepts by working on exercises during lectures, followed by a discussion of the results in classroom.
Module compatibility	Corresponding to elective module in Master Program Betriebswirtschaftslehre. Including useful interfaces with modules “International Capital Markets” (Mandatory), “Equity and Bond Investments” (Elective), “Bank and Credit Risk Management” (Elective), “Mergers & Acquisitions” (Elective), “Equity Financing and Venture Capital” (Elective) and “Derivatives” (Elective), and potentially with Master thesis.
Literature (excerpt)	■ Bodie, Z., Kane, A., Marcus, A.: Investments and Portfolio Management ■ Choudhry/Landuyt: The Future of Finance: A New Model for Banking and Investment ■ De Weert, F.: Bank and Insurance Capital Management ■ Hull, J.: Risk Management and Financial Institutions ■ Iannotta: Investment Banking – A Guide to Underwriting and Advisory Services ■ Liaw: The Business of Investment Banking: A Comprehensive ■ Mishkin,F., Eakins, S.: Financial Markets and Institutions (Global Edition)
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 20 hrs. Preparations of classes, mandatory reading ■ 50 hrs. Post processing of the lecture ■ 62 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.2.5 Applied Quantitative Methods

Module coordinator	Prof. Dr. Seebens
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min)
Prerequisites	Basic statistics
Learning objectives and skills	The major focus of this course is to enable students to analyze quantitative data and to interpret results derived from the application of quantitative analytical methods. Quantitative data analysis has become the backbone of much what is being done in economics as well as in finance as much of decision making in these fields is based on the results generated by applying quantitative analytical tools. Emphasis in this course is therefore placed on inferential methods as commonly applied in modern micro-, macro-, and financial economics. Students construct quantitative models and apply each analytical approach discussed using the statistical software package Stata. In addition, students will discuss crucial underlying assumptions involved in the models applied. Students are thus enabled to critically assess the reliability of the results they have generated and apply appropriate solutions. For this, a solid theoretical background is provided in the course necessary for the critical evaluation of the generated results. By applying the quantitative tools using Stata, students demonstrate and test effects of and causes leading to violations of underlying assumptions. In the exam, students need to demonstrate their capability to identify and solve problems using the approaches they have been working on throughout the course.
Module content	The course covers the following topics: ■ Introduction to Stata ■ Simple and multiple regression ■ Hypothesis testing ■ Model building ■ ARIMA ■ GARCH ■ Limited dependent variables
Teaching and learning method	This module consists of a lecture part and on hands on computer exercises using the statistical software package Stata.
Module compatibility	Including useful interfaces with “International Economics” , “Economics of Emerging Markets and Development”, “Equity and Bond Investments”

Literature (excerpt)	■ J. M. Wooldridge Introductory Econometrics: A Modern Approach, International Edition, Thomson. ■ James Stock and Mark Watson.Introduction to Econometrics, Pearson. ■ Chris Brooks: Introductory Econometrics for Finance, Cambridge University Press. ■ G. S. Maddala: Introduction to econometrics, Wiley, 3rd edition ■ R. Sollis: Empirical Finance for Finance and Banking ■ R. Tsay: Analysis of Financial Time Series
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 90 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.2.6 International Economics

Module coordinator	Prof. Dr. Mummert
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Exam (90 min.) (weight 100%)
Prerequisites	None
Learning objectives and skills	Students can describe the fundamental components of the economic globalization process. They understand and are able to explain the constitutional complexity of the world economy. Course participants are able to analyze international economic developments and can draw practice oriented conclusions from their analysis. They can present and evaluate relevant information in written form. They are able to answer questions on this matter comprehensively and can explain relevant interrelationships.
Module content	The course covers the following topics: ■ Globalization in historical context ■ Foreign exchange markets and exchange rate concepts ■ Balance of Payments Mechanics ■ Exchange Rate Dynamics ■ Exchange Rate Arrangements ■ Currency Crises ■ Financial Market Globalization and Economic Growth
Teaching and learning method	This course consists of a lecture part and active paper reading. In the lecture part the students will be endowed with the necessary knowledge and analytical tools. The knowledge and understanding will be deepened in reading and discussing papers on the respective issues.
Module compatibility	Including useful interfaces with module “International Capital Markets”.
Literature (excerpt)	■ Feenstra, Robert C. and Alan M. Taylor (2021): International Economics, Worth Publishers. ■ Krugman, Paul R. and Maurice Obstfeld, Marc Melitz (2022): International Economics, Addison-Wesley. ■ Reinert, Kenneth (2020): An Introduction to International Economics, Cambridge University Press. ■ Additional reading is provided for each topic. All texts will be available via Moodle.
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 60 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 60 hrs. Preparation for exam

Total workload: 180 hrs/ 6 ECTS

3.2.7 Applied International Research Project

Module coordinator	Prof. Dr. Rogers, Prof. Dr. Gerhard
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Group report and presentation/discussion (weight 40:60)
Prerequisites	Module “Applied Quantitative Methods”
Learning objectives and skills	The key objective is provision of applied research capabilities in international finance and economics. Develop skills on how to search for, evaluate and analyse primary and secondary information, with the aim of arriving at meaningful, objective results for a realistic project, with a focus on finance and economics. Students work in small teams, with an emphasis on understanding how to structure and carry out the project within the team, including managing their own deadlines. Students apply their academic theoretical knowledge to practical applications via real case-based research projects with companies (including the diverse functions in business operations) and/or academic-based research projects. During the course students carry out desktop research and/or interviews and/or process analyses in the companies or the academic environment of the applied research topics. In this respect, they create added value for the applied research projects with the companies or the research in theory.
Module content	Students carry out independent and applied research on a specific topic in the area of international finance and economics. The exact contents depend on the specific research stream selected but will include a critical review of the state of art information/literature sources on the chosen topic. Guidance is given in terms of academic writing, presentation and data visualisation, as well as coaching during the project.
Teaching and learning method	Guided independent research on a small group basis
Module compatibility	---
Literature (excerpt)	■ Bailey, S. (2011) Academic Writing: A Handbook for International Students, Routledge. ■ Ghauri, P., Grønhaug, K., & Strange, R. (2020). Research methods in business studies. Cambridge University Press. ■ Knaflic, C.N. (2015), Storytelling with Data: A Data Visualization Guide for Business Professionals, Wiley, Hoboken, New Jersey. ■ Sekaran, U & Bougie, R (2016) Research Methods For Business: A Skill Building Approach, Wiley

	■ Additional topic specific literature will be discussed in class
Workload in full hours (= 60 minutes)	■ 22.5 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 112.5 hrs. Preparation of research paper/presentation Total workload: 180 hrs/ 6 ECTS

3.2.8 Master Thesis

Module coordinator	Thesis supervisor (list of potential supervisors available on intranet)
Integration in curriculum	3. semester
Credit points	18 ECTS
Total workload	540 hrs.
Module type	Mandatory
Duration	One semester
Module frequency and language	Winter semester (English) ☒ Summer semester (English) ☒
Method of examination and grading procedure	Written master thesis (two hard copies plus electronic data storage device such as CD/data stick). Preparation time: five months. Presentations and/or discussions of progress and interim results may be required by the thesis supervisor on an individual basis.
Prerequisites	Minimum 30 ECTS of the master program must be completed before registration of the thesis.
Learning objectives and skills	Students are able to perform academic work and research related to a specific and complex academic or practical problem related to international finance or economics. They apply appropriate research methods and draw their own conclusions within a limited time period. Students relate and apply their acquired academic understanding to a practical and/or academic issue. After successfully completing the thesis, students gain the following competences: ■ Plan, organize and structure a scientific research project related to a complex topic. ■ Acquire specialized knowledge in the student´s chosen focus area. ■ Independently conduct high-quality scientific research. ■ Employ appropriate research methods and analytics. ■ Apply academic writing skills. ■ Finalize a scientific document including correct citations, adherence to formal requirements and fulfilling high standards of academic writing.
Module content	In-depth analysis of a specific research topic to be assigned to the student by the thesis supervisor. The topic must be related to the area of international finance or economics. The thesis can also be prepared in co-operation with a company.
Teaching and learning method	Independent preparation of the master thesis, accompanied by guidance to students, presentations of students and/or discussions of progress and interim results on an individual basis.
Module compatibility	Potentially related to all modules, depending on particular topic of the master thesis.
Literature (excerpt)	Literature depending on concrete topic of the master thesis. However, both standard literature and current scientific papers should be taken into consideration.

Workload in full hours (= 60 minutes)	■ Contact hours: depending on supervisor ■ Preparation for presentation/discussion: depending on supervisor Total workload: 540 hrs /18 ECTS

3.3 Elective Modules

3.3.1 Mergers & Acquisitions

Module coordinator	Prof. Dr. Fischer
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ **NOT in WiSe 25/26** Summer semester (in German) ☒
Method of examination and grading procedure	Exam (90 min.); Presentation (weight 50:50)
Prerequisites	Knowledge in principles of corporate finance and application of basic principles of financing and investments learned from a bachelor class.
Learning objectives and skills	Students can apply actual concepts and theories on mergers and acquisitions. The seminar participants are capable to evaluate a transaction with fundamental methods, to structure the M&A process and to critically evaluate the success of M&A-transactions. Students can present and evaluate relevant information in written and oral form. One of the main qualification targets of the course is to enable students to evaluate a transaction with fundamental methods, to build the process of M&A-transactions with case examples and to critically evaluate the success of M&A-transactions. The seminar enables students to present and evaluate relevant information and to answer questions on this matter comprehensively. For this purpose the students analyze in a company case study the M&A-transaction; they use own Excel calculations and PowerPoint presentations to demonstrate professional competencies in the presentation part. In the written exam the students show that they know the theory of the M&A process, the definitions, concepts, valuation methods, value management concepts in M&A as well as the different financing options. In the exam the students demonstrate that they can answer critical questions regarding the measurement of merger success and financing of mergers. The presentation is necessary for the training and application of M&A competence for a specific case. The exam is necessary to demonstrate the theoretical competence regarding the M&A-process. Both forms of grading are necessary to support the goals of the seminar in theory and practice.

Module content	The course covers the following topics: ■ Strategies and process planning in M&A ■ Valuation of companies in M&A ■ Financing of M&A-transactions ■ M&A with Management Buyout and Private Equity ■ Legal and tax restrictions for M&A ■ Success factors for M&A ■ Post Merger Integration ■ Private Equity and Venture Capital ■ Case Studies for M&A-transactions in different industry sectors
Teaching and learning method	This module consists of a lecture part and an independent research part. In the lecture part the students will be endowed with the necessary knowledge and analytical tools for the M&A process. Additionally topics on current issues in M&A will be provided for independent research by the students. Students are to present their M&A case analysis in a written presentation with academic referencing.
Module compatibility	Including useful interfaces with “Equity and Bond Investments” (Elective), “Equity Financing and Venture Capital” (Elective)
Literature (excerpt)	■ Bruner: Cases in Finance, Managing for Corporate Value Creation ■ Copeland/Koller/Murrin: Valuation – Measuring and managing the value of companies ■ Damodaran, A.: Investment Valuation ■ Damodaran, A.: Applied Corporate Finance ■ Ernst, D./Haecker, J.: Applied International Corporate Finance ■ Fischer, Matthias: Handbuch Wertmanagement in Banken und Versicherungen, Gabler 2004 ■ Fischer, Matthias: Fintech Business Models, Applied Canvas Method and Analysis of Venture Capital Rounds, De Gruyter Berlin 2021 ■ Picot, G.: Handbook of International Mergers & Acquisitions ■ Seppelfricke, P.: Handbuch Aktien- und Unternehmensbewertung: Bewertungsverfahren, Unternehmensanalyse, Erfolgsprognose ■ Voigt, K.-I./Fischer, M.: Genossenschaftsbanken im Umbruch, De Gruyter Oldenbourg Berlin 2016.
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 90 hrs. Preparation for exam/presentation Total workload: 180 hrs/ 6 ECTS

3.3.2 Innovation Financing and Venture Capital (Formerly: Equity Financing and Venture Capital)

Module coordinator	Prof. Dr. Honold
Integration in curriculum	1. 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (English) ☒ Summer semester (German) ☒
Method of examination and grading procedure	Presentation (100%)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	Students are able to analyze the development path of equity financing of start-ups with venture capital. Therefore students develop excel based cap tables and waterfall analysis in connection with decision trees as an essential fundament for the work in this field from founding to exit. Students have to analyze particular investment cases, simulate them and present them in class for discussion and negotiation. As this field is highly dynamic, new developments in financing are also analyzed and discussed in focused presentations with the same analyzation tools as for the cases to enhance the knowledge relevant for fulfilling the task. They are able to answer questions on this matter comprehensively, assessing the problem solving competences in the general financing of start-ups with venture capital in dependence of the life-cycle phases and can explain relevant relationship between the parties of the financing structures and contracts.
Module content	The course covers the following topics: ■ Analysis and evaluation of shareholder and stakeholder Corporate governance ■ Equity financing growth by innovation vs. expansion ■ Market conditions in financing growth with public and private equity ■ Business models and equity financing ■ Cash-flow and governance rights in equity financing in detail ■ Exit issues in equity financing ■ Current issues in growth financing ■ Cases

Teaching and learning method	This module consists of a lecture part and an independent research part. In the lecture part the students will be endowed with the necessary knowledge and analytical tools in equity financing with public and private equity especially for growth of companies. Additionally topics on current issues and case studies will be provided for independent research by the students. Students have to present their findings in an oral presentation.
Module compatibility	Corresponding to module „Eigenkapitalfinanzierung und Venture Capital“ in Master Program Betriebswirtschaftslehre. Including useful interfaces with modules “Corporate Valuation and Value Based Management” as well as “Equity and Bond Investment” (available as Electives) and potentially with Master thesis.
Literature (excerpt)	■ Metrick / Yasuda (2011): Venture Capital & the Finance of Innovation, 2nd ed., Wiley, New York ■ Smith (2019): Entrepreneurial finance, 2nd ed., Stanford Business Books, Stanford. ■ Gompers; Lerner (2006): The venture capital cycle. 2. ed., MIT Press, Cambridge ■ Fabozzi (2016): Entrepreneurial Finance and Accounting for High-Tech-Companies, MIT Press, Cambridge ■ Kaplan/Strömberg (2003): Financial Contracting Theory Meets the Real World. An Empirical Analysis of Venture Capital Contracts. In: Review of Economic Studies, Vol. 70, Issue 2, p. 281–315. ■ Vries / Loon (2016): Venture Capital Deal Terms, HMS Media Vof ■ Honold, Dirk / Ventury Analytics / PWC (2022): Venture Capital Market Study 2022. Financing Start-ups with Venture Capital and Valuation of Start-ups in real-life Practice. ■ Honold, Dirk/Fege, Merlin (2022): Wert von Mitarbeiterbeteiligungen in Start-ups mit Liquidationspräferenzen - Ein blinder Fleck zwischen Erwartung und Realität. In: CORPORATE FINANCE Nr. 11-22 2022, S. 346-355 ■ Honold (2014): Wagniskapitalfinanzierung durch den High-Tech Gründerfonds (HTGF), in CORPORATE FINANCE, Issue 5/2014 p. 220-236 ■ Case Studies + additional reading for special topics
Workload in full hours (= 60 minutes)	■ 42 hrs. Contact Hours ■ 36 hrs. Preparations of classes, mandatory reading ■ 32 hrs. Post processing of the lecture ■ 70 hrs. Preparation for presentation Total workload: 180 hrs/ 6 ECTS

3.3.3 Equity and Bond Investments (Aktien- und Bondinvestments)

Module coordinator	Prof. Dr. Andreas Weese
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester ☐ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min); equity investment analysis (presentation) (weight 51:49)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	One of the main learning outcomes of the course is to enable students to analyze stock investments, to derive investment recommendations, and to discuss these decisions critically. For this purpose, students analyze particular stocks in order to derive a professional investment decision from the perspective of institutional investors. They develop an own Excel model for the analysis of financial figures and for the generation of own forecasts. Students critically select appropriate valuation approaches and implement them in Excel. In this context, they also make use of the professional information system LSEG Data & Analytics. Based on their analysis, students draw a conclusion in terms of an investment recommendation. They critically discuss this recommendation and evaluate potential risks of the investment in the context of a group discussion. As type of examination, these aforementioned competences are mainly assessed by means of an equity investment analysis including a final group presentation. In the area of bond investments, students are able to explain different types of fixed income instruments and to analyze their respective characteristics. They assess the risk profile of these instruments. Students apply basic arbitrage-free valuation techniques for plain vanilla bonds as well as for structured bonds with embedded options and asset backed securities (ABS). These competences are tested in a written exam.

Module content	The course covers the following topics: ■ Equity investment analysis and valuation approaches applied in practice ■ Discussion of benefits and limits of theoretical valuation models as well as discussion of the impact of market psychology ■ Characteristics of fixed-income instruments and valuation of bonds in theory and practice ■ Characteristics and valuation of bonds with embedded options ■ Characteristics and valuation of Asset Backed Securities (ABS)
Teaching and learning method	This module consists of a seminar-style lecture part and an individual research part. In the lecture part, theoretical concepts are explained in detail and illustrated by numerical examples. Students are encouraged to raise their questions related to these concepts and to practical issues. Students directly apply these concepts by working on exercises during lectures, followed by a discussion of the results in classroom. In the individual research part, students independently conduct an own investment analysis of a selected stock outside the lecture time. Dependent on seminar size, this analysis is conducted on an individual basis or in small groups. Students present and discuss their interim results in several steps during the semester and receive feedback, which they integrate into their analysis. They present their final results and recommendation in the form of a simulated investor meeting.
Module compatibility	Corresponding to module „Aktien- und Bondinvestments“ in Master Program Betriebswirtschaftslehre Including useful interfaces with modules “Corporate Valuation and Value Based Management” (Mandatory), “Derivatives” (Elective) and “Portfolio Management und Risiko” in Master Program Betriebswirtschaftslehre (available as Elective “Portfolio Management and Risk” in MIFE in German language), and potentially with Master thesis.
Literature (excerpt)	■ Fabozzi: Fixed Income Analysis ■ Pinto et al.: Equity Asset Valuation ■ Bodie/Kane/Marcus: Investments and Portfolio Management ■ Damodaran: Investment Valuation
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 22 hrs. Preparations of classes, mandatory reading ■ 20 hrs. Post processing of the lecture ■ 45 hrs. Preparation for presentation ■ 45 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.3.4 Case Studies Fintechs and Financial Innovation (Formerly: Case Studies in Finance and Capital Markets)

Module coordinator	Prof. Dr. Fischer **NOT in summer semester 2025**
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (in German) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min.); Presentation (weight 50:50)
Prerequisites	Knowledge and application of Principles of Corporate Finance and Capital Markets learned in bachelor classes in financing and investments.
Learning objectives and skills	One of the main qualification targets of the course is to enable students to apply innovative concepts in finance and banking in case studies. Participants are capable to critically evaluate new fintech business models or financial innovations in finance. Participants are capable to discuss innovative challenges in the fintech and banking markets. For this purpose the students have to read and to discuss various real world case studies; they use own Excel calculations and PowerPoint presentations but also have to use actual data from mainly online sources e.g. company websites or financial data websites to demonstrate professional case study competences in the presentation part. The students explain and defend in the class presentation why they have selected the specific numbers in their financial analysis and calculations. This interactive interpretation needs the oral class discussion. In the part of the written exam the students show their competence in the theory of the financial concepts which have to be applied in the real world case studies. The presentation is necessary for the training and application in real world cases in Finance and capital markets. The exam is necessary to demonstrate the theoretical competence which is needed as intellectual background in all case studies. Both forms of grading are necessary to support the goals of the case study seminar in theory and practice.

Module content	The course covers the following topics: ■ Various Case studies on Fintechs, Insurtechs, Robo Advisory, Crowd Funding, Social Trading, Blockchain and Artificial Intelligence in Finance ■ Theoretical Investment and financing models are used as basis for the discussion of the cases ■ Robo Advisory and Investment Strategy with e.g. Modern Portfolio Theory, CAPM or Black Litterman ■ Crowd Funding ■ Social Trading ■ Valuation of fintechs ■ Product Innovations in asset management, e.g. in ETF ■ Innovation and Financial Regulation ■ Innovative concepts in Value Based Management ■ Innovations in capital markets and banking
Teaching and learning method	Discussion of Case Studies, student case analysis and presentations, group work
Module compatibility	Including useful interfaces with modules “International Capital Markets” (Mandatory), “Equity and Bond Investments” (Elective), “Bank and Credit Risk Management” (Elective), “Mergers & Acquisitions” (Elective), “Equity Financing and Venture Capital” (Elective)
Literature (excerpt)	■ Arslanian, H./ Fischer, F.: The Future of Finance: The Impact of FinTech, AI, and Crypto on Financial Services, 2019 ■ Brealey/Myers/Allen: Principles of Corporate Finance ■ Bruner: Cases in Finance ■ Bodie, Kane and Markus: Investments ■ Copeland/Koller/Murrin: Valuation – Measuring and managing the value of companies ■ Damodaran, A.: Investment Valuation ■ Damodaran, A.: Applied Corporate Finance ■ Ernst, D./Haecker, J.: Applied International Corporate Finance ■ Fischer, Matthias: Handbuch Wertmanagement in Banken und Versicherungen, Gabler 2004 ■ Fischer, Matthias: Fintech Business Models, Applied Canvas Method and Analysis of Venture Capital Rounds, De Gruyter Berlin 2021 ■ King, Brett: Bank 4.0 ■ Nathmann, M.: FinTech: Herausforderungen bei der Regulierung digitaler Geschäftsmodelle anhand von Gestaltungen aus dem Wertpapierbereich, 2019 ■ Tanda, A. /Schena, C.: FinTech, BigTech and Banks: Digitalisation and Its Impact on Banking Business Models, 2019 ■ Tiberius, V. /Rasche C.: FinTechs: Disruptive Geschäftsmodelle im Finanzsektor, 2017 ■ Voigt, K.-I./Fischer, M.: Genossenschaftsbanken im Umbruch, De Gruyter Oldenbourg Berlin 2016
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 22 hrs. Preparations of classes, mandatory reading ■ 10 hrs. Post processing of the lecture ■ 35 hrs. Group work/ tutorials ■ 35 hrs. Preparation for presentation ■ 30 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.3.5 Financial Risk Management

Module coordinator	Prof. Dr. Eckstein
Integration in curriculum	1. or 2. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Written Exam (90 min), 100%
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	Provision of advanced knowledge and analytical capability in financial risk management, i.e. controlling stock prices, interest rates and exchange rates via futures, options and swaps. Designing, using and communicating a practical risk management approach to derivatives for the investment generalist. The students are able to design and realize quantitative strategies in the field of financial risk management and expand their knowledge base independently. The students are able to reflect their strengths and weaknesses in the field of risk management as well as to scrutinize their self-management and efficiency. The students are able to work and learn together with people with different nationalities and cultures.
Module content	The course covers the following topics: ■ Why Risk Management ■ Measuring Risk: Value at Risk (VaR) ■ Futures strategies ■ Options strategies ■ Swap strategies ■ Special Application: Real Options
Teaching and learning method	Discussion of Case Studies, student case analysis and presentations, group work
Module compatibility	Corresponding to elective module in Master Program Betriebswirtschaftslehre. Including useful interfaces with modules “International Capital Markets” (Mandatory), “Bank and Credit Risk Management” (Elective), and “Derivatives” (Elective), and a presumed Master thesis.

Literature (excerpt)	■ Chance, Brooks: An Introduction to Derivatives and Risk Management, 10th ed. 2013, South Western, Mason ■ Chance (2003): Analysis of Derivatives for the CFA Program, AIMR, Charlottesville
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 90 hrs. Preparation for presentation/ exam Total workload: 180 hrs/ 6 ECTS

3.3.6 Portfolio Management and Risk (Portfoliomanagement und Risiko)

Module coordinator	Prof. Dr. Weese
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (in German) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min); Presentation (weight 51:49)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	The main learning outcomes of the course are to enable students to apply key techniques of asset allocation and portfolio management within the asset classes of equity and bond instruments, as well as to evaluate portfolio risk and performance. For this purpose, students use LSEG Data & Analytics and Excel in order to calculate various return and risk measures of asset classes. Based on these historical data, they develop their own return expectations. Students apply key techniques of asset allocation and portfolio management for a real-world data set by using LSEG Data & Analytics and Excel. Furthermore, students develop a proprietary active equity portfolio strategy and implement a concrete portfolio by using LSEG Data & Analytics applications. They analyze the exposure profile of their individual portfolio, and, toward the end of the course, they discuss the portfolio performance and analyze performance attribution. As type of examination, these aforementioned competences are mainly assessed by means of case studies, including classroom presentation of the respective results. Furthermore, students discuss and evaluate additional concepts and approaches of equity portfolio management, like index models. In the area of fixed income portfolio management, students are able to explain different portfolio management approaches and analyze their respective characteristics. They apply key tools for measurement and management of interest rate risk. Regarding risk assessment, students distinguish between performance measurement and performance attribution, and they apply various measures of performance evaluation. These competences are tested in a written exam.

Module content	The course covers the following topics: ■ Development of capital market expectations ■ Risk aversion and capital allocation ■ Optimization of risky portfolios ■ Management approaches for equity and bond portfolios ■ Index model and multi-factor models in use for equity portfolio management ■ Interest rate risk and convexity ■ Performance measurement and performance attribution
Teaching and learning method	This module consists of a seminar-style lecture part and an individual research part (case studies). In the lecture part, theoretical concepts are explained in detail and illustrated by numerical examples. Students are encouraged to raise their questions related to these concepts. Students directly apply these concepts by working on exercises during lectures, followed by a discussion of the results in classroom. In this context, also more extensive exercises based on real price data have to be solved by applying Excel. In the individual research part, outside the lecture time, students work through several case studies by using LSEG Data & Analytics and Excel. Students briefly present and critically discuss their results in classroom. Dependent on seminar size, these case studies are conducted on an individual basis or in small groups.
Module compatibility	Corresponding to module „Portfoliomanagement und Risiko“ in Master Program Betriebswirtschaftslehre. Including useful interfaces with modules “International Capital Markets” (Mandatory), “Equity and Bond Investments” (Elective) and “Derivatives” (Elective), and potentially with Master thesis.
Literature (excerpt)	■ Bodie, Z., Kane, A., Marcus, A.: Investments ■ Maginn, J., Tuttle, D., McLeavey, D., Pinto, J.: Managing Investment Portfolios. A Dynamic Process ■ Mondello, Enzo: Portfoliomanagement: Theorie und Anwendungsbeispiele ■ Stewart, S., Piros, C., Heisler, J.: Running Money – Professional Portfolio Management
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 22 hrs. Preparations of classes, mandatory reading ■ 20 hrs. Post processing of the lecture ■ 45 hrs. Preparation for presentations/case studies ■ 45 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.3.7 Bank and Credit Risk Management (Bank- und Kreditrisikomanagement)

Module coordinator	Prof. Dr. Schiele
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester (in German) ☒
Method of examination and grading procedure	Exam (90 min); presentation (weight 50:50)
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	One of the main qualification targets of the course is to enable students to apply and evaluate credit risk measurement models and credit risk management instruments. Furthermore, they should be able to combine the relevant techniques to calculate capital requirements and to calculate and to analyze banking industry specific key performance indicators. To ensure a deeper understanding, students develop MS-EXCEL-based implementations of credit risk models, risk management instruments and/or capital requirement calculation algorithms. The implementation and application of the models/instruments is the basis for the critical discussion in the group. Based on their analysis, students draw a conclusion in terms of assumptions, restrictions, data requirements, parameter estimation challenges, implementation problems and/or risk mitigation effects of the models and instruments. As type of examination, these aforementioned competences are assessed by a final group presentation. Furthermore, the course addresses the relationship between risk measurement instruments, regulatory rules, capital requirements and risk management techniques. The students understand and evaluate the more general and structural aspects of modern credit risk management. These competences are assessed by the written exam.
Module content	The course covers the following topics: ■ Knowledge of the key performance indicators for modern bank management ■ Knowledge and application of instruments and methods to measure and manage credit risk ■ Understanding of the structure of regulatory capital requirements ■ Ability to calculate regulatory capital and capital requirements based upon the European banking regulation framework ■ Understanding of basic methods and models to measure expected and unexpected losses (rating model, PD estimation, credit portfolio models)

Teaching and learning method	This module consists of a lecture part and an individual research part. In the lecture part, students will be introduced to the most important concepts regarding bank and credit risk management. High importance is given to the regulatory framework of risk management. In the individual research part, students will conduct an own analysis of a credit risk related topic. Students shall discuss their findings in a classroom presentation.
Module compatibility	Corresponding to module „Bank und Kreditrisikomanagement“ in Master Program Betriebswirtschaftslehre Including useful interfaces with modules “Corporate Valuation and Value Based Management” (Mandatory), “Global Financial Institutions and Investment Banking” (Mandatory), “Derivatives” (Elective) and “Equity and Bond Investments” (Elective) and potentially with Master thesis.
Literature (excerpt)	■ John C. Hull: Risk Management and Financial Institutions, 4th Edition, Wiley 2015 ■ Christian Bluhm, Ludger Overbeck, Christoph Wagner: An Introduction to Credit Risk Modeling, 2nd Edition, Chapman & Hall, 2010 ■ Jiri Witzany (2017) Credit Risk Management: Pricing, Measurement, and Modeling, Springer, 2017 ■ Joel Besis: Risk Management in Banking, 4th Edition, Wiley 2015.
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 20 hrs. Preparations of classes, mandatory reading ■ 22 hrs. Post processing of the lecture ■ 45 hrs. Preparation for presentation ■ 45 hrs. Preparation for exam Total workload: 180 hrs/ 6 ECTS

3.3.8 Derivatives (Finanzderivate)

Module coordinator	Prof. Dr. Streitferdt
Integration in curriculum	2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Finance)
Duration	One semester
Module frequency and language	Winter semester ☐ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90 min), 100%
Prerequisites	Basic knowledge and competences comparable to the courses „Finance, Investment and Capital Budgeting“ and „Corporate Finance“ of the Bachelor program in International Business of TH Nürnberg.
Learning objectives and skills	After successful participation in this module the students can: ■ calculate the fair forward rate to check quoted prices and exploit mispricing on the markets ■ determine the value of an existing forward transaction at any point of its lifetime. ■ set up and analyze Swap agreements including Interest Rate Swaps, Currency Swaps and Total Return Swaps. They can use the result of their analysis to evaluate different Swap deals. ■ apply the put-call parity to derive the price of a put option out of a quoted call price. ■ create binomial trees, calibrate it to real life date, and use it for option pricing. ■ apply delta hedging for eliminating the risk out of any option position during its lifetime. ■ derive out of a binomial process the Black/Scholes/Merton model for option valuation. ■ use risk neutral pricing techniques for finding fair values for derivatives on dividend paying underlying securities.
Module content	The course covers the following topics: ■ Basic discounting ■ Security lending ■ Forwards ■ Futures ■ Swaps ■ Options ■ Put-Call-Parity ■ Binomial trees and delta hedging ■ Stochastic processes as asset price models ■ Black/Scholes/Merton-Formulas for option valuation ■ Risk neutral valuation ■ Valuation of structured products ■ Interest rate options

Teaching and learning method	This module consists of lectures and case studies. In the lecture, students have to solve real world cases. The case will be analyzed in three steps: 1. Individual preparation, 2. Small group discussion 3. Classroom discussion moderated by the teacher.
Module compatibility	Including useful interfaces with modules “Equity and Bond Investments” (Mandatory), “Corporate Valuation and Value Based Management” (Mandatory), “Derivatives” (Elective) and “Portfolio Management und Risiko” in Master Program “Betriebswirtschaftslehre” (available as Elective “Portfolio Management and Risk” in MIFE in German language), and potentially with Master thesis.
Literature (excerpt)	■ Brealy, R.A./Myers, S.C/Allen, F: Principles of Corporate Finance, 12th edition, 2017, McGraw-Hill. ■ Choudry, Moorad:The Money Markets Handbook, 2009, Wiley & Sons. ■ Choudry, Moorad, The Bond & Money Markets: Strategy, Trading, Analysis, 2003, Butterworth. ■ Hull, John C.: Options, Futures and other Derivatives, 9th Edition, 2017, Prentice Hall. ■ Hirsa, A./Neftci, S.N., An Introduction to the Mathematics of Financial Derivatives, 2013, Academic Press. ■ Shreve, Stochastic Calculus for Finance I, 2004, Springer. ■ Shreve, Stochastic Calculus for Finance II, 2004, Springer. ■ Wiersema, U.F., Brownian Motion Calculus, 2008, Wiley & Sons.
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 20 hrs. Preparations of classes, mandatory reading ■ 22 hrs. Post processing of the lecture ■ 20 hrs. Team work/ tutorials ■ 70 hrs. Preparation for exam/ presentation Total workload: 180 hrs/ 6 ECTS

3.3.9 Economics of Emerging Markets and Development

Module coordinator	Prof. Dr. Seebens
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Economics)
Duration	One semester
Module frequency and language	Winter semester ☐ Summer semester (in English) ☒
Method of examination and grading procedure	Exam (90) (70%), paper presentation (30%)
Prerequisites	Intermediate macroeconomics and microeconomics, applied quantitative methods.
Learning objectives and skills	The major learning outcome of this course is the ability to critically assess the current state of economic and in particular financial sector development of developing and emerging economies. The analytical instruments provided will enable students to explain recent developments, to assess policies and projects carried out to foster financial development and to identify future trends which eventually serve as ingredients for the preparation of a country risk assessment. The students can critically assess projects and national policies and are familiar with challenges involved. They can explain how development finance and the financial sector in developing and emerging economies work, what sources of finance are available to countries' policy makers and private actors and how effectively funds are being used. A presentation on a chosen topic deepens the understanding of a particular topic, stimulate own reflections and stimulates the discussion of topics and policies related to financial sector development. The results of the discussion will be summarized in a seminar paper to be delivered by each student.
Module content	The course covers the following topics: ■ What is development? ■ Poverty and inequality ■ Theories on growth and development ■ Financial sector development ■ Financial constraints and household decision making ■ Microfinance: credit, savings and insurance
Teaching and learning method	Along with their own presentation, participating students are required to prepare themselves by reading the provided papers. These papers will be discussed and major lessons will be drawn from the discussion.
Module compatibility	Useful interfaces with modules "International Economics", "Applied Quantitative Methods"

Literature (excerpt)	Reading list of relevant articles will be provided in the course.
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 55 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 65 hrs. Preparation of seminar paper Total workload: 180 hrs/ 6 ECTS

3.3.10 Economics of European Integration

Module coordinator	Prof. Dr. Mummert
Integration in curriculum	2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Economics)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Exam (90 min.)
Prerequisites	Intermediate Macroeconomics; Intermediate Microeconomics; International Economics, Applied Quantitative Methods
Learning objectives and skills	Students can describe the fundamental mile stones of the European integration process. They understand and are able to explain the different facets and level of European economic integration. They can explain the different drivers – political and economic – of this process. They are able to answer questions on European integration issues comprehensively and can explain relevant interrelationships.
Module content	The course covers the real and monetary integration of Europe. The topics are as follows: ■ Introduction into the history and institutions of EU integration ■ Trade integration ■ Microeconomic growth effects: Market size and scale effects ■ Macroeconomic growth effects ■ European labor market integration ■ The European Monetary System ■ The Theory of Optimum Currency Areas ■ The European Monetary Union ■ The Political Economics of European integration Optional topics: ■ EU Trade Policy ■ EU Competition Policy ■ EU Common Agricultural Policy ■ EU Regional Policy
Teaching and learning method	This course consists of a lecture part and active paper reading. In the lecture part the students will be endowed with the necessary knowledge and analytical tools. The knowledge and understanding will be deepened in reading and discussing papers on the respective issues.
Module compatibility	All other Electives.

Literature (excerpt)	■ Collection of articles on the respective issues; Reading list is provided at the beginning of the semester. ■ Baldwin, Richard/Wyplosz, Charles (2012 or later): The Economics of European Integration, New York.
Workload in full hours (= 60 minutes)	■ 45 hrs. Contact Hours ■ 60 hrs. Preparations of classes, mandatory reading ■ 30 hrs. Post processing of the lecture ■ 45 hrs. Preparation for exam/presentation Total workload: 180 hrs/ 6 ECTS

3.3.11 Using Big Data to solve Problems in Business Administration and Economics

Module coordinator	Prof. Dr. Gerner
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Economics)
Duration	One semester
Module frequency and language	Winter semester ☐ Summer semester (in English) ☒
Method of examination and grading procedure	Presentations/ Written Exam (90 min) (Weight 40:60)
Prerequisites	Basic knowledge in statistics, mathematics and the software package stata.
Learning objectives and skills	The main objective of the course is to enable students to analyze big data by applying up to date quantitative methods. Furthermore, the participants will learn to draw conclusions from their results in order to improve a firm's business or to answer questions regarding economic problems. The seminar covers commonly adopted techniques: First, classical econometric methods, which aim at testing hypotheses regarding relations between economic variables as well as at identifying causal relationships between them. Moreover, the course covers data mining methods, which mainly focus on a data-driven search of structures in huge data sets and the building of predictive models. In order to be able to apply these approaches to real world problems, to interpret and discuss the results produced, and to draw sensible conclusions, the students need a profound theoretical background which is provided during the course. Finally, all quantitative techniques are implemented in SAS. The TH Nürnberg collaborates with the globally operating analytics software provider SAS as part of this module. By successfully completing the module, you have the opportunity to additionally obtain the SAS specialization "SAS Business Analytics Expert" offered by TH Nürnberg and SAS. This SAS specialization equips you with essential and in-demand SAS skills in the field of Business Intelligence/Business Analytics sought after by companies.
Module content	■ Descriptive Data Analysis: Correlation, Regression, Classification and Clustering ■ Experiments: Randomization, Non-Compliance ■ Quasi-Experiments: Difference-in-Differences, Regression Discontinuity ■ Machine Learning: Support Vector Machines, Neural Networks
Teaching and learning method	This module consists of a lecture part and on hands on computer exercises using the statistical software package SAS and presentations by the participants.

Module compatibility	"Applied quantitative methods" and "applied international research project".
Literature (excerpt)	■ Angrist, J. D.; Pischke, J.-S. (2009): Mostly Harmless Econometrics, an Empiricist's Companion, Princeton. ■ Gareth, J.; Witten, D.; Hastie, T.; Tibshirani, R. (2013): An Introduction to Statistical Learning with Applications in R, 2nd ed., New York. ■ Gearheart, J. (2024): SAS, Python and R – a Cross-Reference Guide for Data Science, Bad Hersfeld. ■ Gearheart, J. (2020): End-to-End Data Science with SAS – a Hands-on Programming Guide, Norderstedt. ■ Gelman, A. (2009): A Statistician's Perspective on "Mostly Harmless Econometrics: an Empiricist's Companion", by Joshua D. Angrist and Jörn-Steffen Pischke, in: The Stata Journal, 9 (2), 315-320. ■ Glennerster, R.; Takavarasha, K. (2013): Running Randomized Evaluations, a Practical Guide, Princeton. ■ Witten, I. H.; Eibe, F.; Hall, M. A.; Pal, C. (2017): Data Mining, Practical Machine Learning Tools and Techniques, 4th ed., Cambridge. ■ Verbeek, M. (2012): A Guide to Modern Econometrics, 4th ed., Chichester.
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 30 hrs. Post processing of the lecture ■ 15 hrs. Tutorials/group work ■ 60 hrs. Preparation for exam/presentation Total workload: 180 hrs/ 6 ECTS

3.3.12 Behavioral Economics

Module coordinator	Prof. Dr. Jäckle
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (Economics)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Presentations/ Written Exam (90 min) (Weight 40:60)
Prerequisites	(Intermediate) Microeconomics, Statistics (Bachelor level)
Learning objectives and skills	This course aims at creating awareness of how rational and irrational behavior shape economic decisions. One of the central goals of this course is to familiarize students with current applied research in the field of behavioral economics and to enable them to acquire, to apply and to critically discuss it. To this end, the course starts teaching the most important basics of behavioral economics in the classical form of a lecture. Building on this knowledge, students are then encouraged to read, summarize, evaluate and finally present scientific papers on current topics of behavioral economics. Against the backdrop, this course relies on two different forms of examination: First, a written exam to test the students' ability to discuss and analyze the textbook knowledge acquired in the lecture and second, a presentation to examine whether the students are capable to understand, evaluate and discuss current topics of behavioral economics.
Module content	In contrast to the public awareness, economists are working for decades to expand the standard rational choice model. Traditional approaches in this regard are e.g. the investigation of strategic interactions (game theory) and decision making under asymmetric information (information economics). Even more popular is the field of behavioral economics which tries to describe why people behave irrationally. The focus of this course is threefold: ■ We repeat the most important basic features of rational decision making as well as more sophisticated approaches including, e.g., game theory and decisions under uncertainty. ■ We explain some of the basic principles, ideas and reasons for irrational decision making, and ■ We expand these basic models using deviations from the rational choice model. ■ We briefly discuss the methodological basics necessary to conduct experiments.
Teaching and learning method	Seminar, case studies and presentations

Module compatibility	Including useful interfaces with modules “Applied Quantitative Methods”, “Intermediate Microeconomics”, “Using Big Date to Solve Problems in Business and Economics” and “Economics of Emerging Markets and Development”.
Literature (excerpt)	**Textbooks on Behavioral Economics and Microeconomics**: ■ Cartwright, Edward: Behavioral Economics, 3rd edition, Routledge, Oxford, 2018. ■ David R. Just, Introduction to Behavioral Economics, 2014. ■ Dhami, Sanjit: The Foundations of Behavioral Economics, Oxford University Press, 2016. ■ Frank Robert H. and Edward Cartwright: Microeconomics and Behavior, McGraw-Hill, New York, 3rd Edition, 2020. ■ Varian, Hal R.; Intermediate Microeconomics – A modern approach, 9th edition, Norton, New York, 2014. T**extbooks on Econometric and Experimental Methods:** ■ Angrist, Joshua D. und Jörn-Steffen Pischke: Mastering Metrics – The Path from Cause to Effect, Princeton University Press, Princeton, 2015. ■ Angrist, Joshua D. und Jörn-Steffen Pischke: Mostly Harmless Econometrics – An Empiricist’s Companion, Princeton University Press, Princeton, 2009. ■ Babby, Earl: The Practice of Social Research. 13th edition, Cengage Learning, Wadsworth, 2013. ■ Gerber, Alan S. and Donald P. Green: Field Experiments – Design, Analysis, and Interpretation, Norton, New York, London, 2012. **Popular Science Literature:** ■ Kahneman, Daniel: Thinking Fast and Slow, Farrar, Straus and Giroux; 1st edition, 2013. ■ Thaler, Richard H. und Cass R. Sunstein: Nudge – Improving Decisions About Health, Wealth, and Happiness, Yale University Press, New Haven & London, 2008.
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 30 hrs. Preparations of classes, mandatory reading ■ 30 hrs. Post processing of the lecture ■ 15 hrs. Tutorials/group work ■ 60 hrs. Preparation for exam/presentation Total workload: 180 hrs/ 6 ECTS

3.3.13 Strategic Management in a Global Context

Module coordinator	Prof. Dr. Rogers, Prof. Dr. Wellner, Prof. Dr. Gerhard **Lecturers in summer semester 2025: Wellner / Wynder**
Integration in curriculum	1., 2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (General Management)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester (in English) ☒
Method of examination and grading procedure	Presentation/case study (50%) / examination (90 min, 50%) Presentation (20 min) on a Key Reading Topic or Case Study (50%). Most semesters part of the course takes place in a 2-day off-site setting known as a „Wild West Show“ (compensation for non-attendance: 2000 words academic paper). Details advised during the first lecture every semester. Additionally there is a written exam of 90 minutes (50%). The combination of exam and presentation is linking the academic necessity of cases/current topics and know how in global strategic management. This adds value to the course and provides students with a suitable balance of applied learning and didactics.
Prerequisites	Successfully completed an introductory course on Strategic Management.
Learning objectives and skills	The key objective is provision of the application of analytical skills in global strategy. Students will be able to successfully apply the contents of strategy (tools/techniques) to international settings. They will competently analyze global contexts and assess MNC options. Students will be capable of applying academic models to real-life or case-simulated international business situations. In separate seminars based on current key readings the students will become well versed in the art of scientific writing, using original sources as opposed to standard textbook material. Students will understand how to combine academic theory and practical applications in Strategic Management in a global environment. In particular, they analyse the current status of operations and research in global strategic management. Students apply their case know how to current topics and theoretical topics in the lecture, group work and presentation. Besides the course contents, students learn to interact in multinational groups during their group work/presentation and enhance their presentation skills during presentations. During the course students participate in an offsite to enrich academic discussions with international guest lectures from partner universities and industry representatives. In this respect they create added value for participating companies, international guest lecturers or research theory.
Module content	The course covers the following topics:

	■ A global perspective: matching the firm's strategies and products and dealing with ethical, social and/or cultural responsibilities. ■ Hidden Champions ■ Global Trade considerations. ■ German Success factors in International Trade ■ Leadership and innovation in an international setting. ■ Review of strategy theories and international expansion. ■ Managing M&As, including strategic negotiations. ■ Key readings covering current issues in global strategy from leading academic journals.
Teaching and learning method	Lectures; Group work; presentations, cases, written assignment. The module is a blend of international guest lectures, company cooperation, theory in lecture and group work/discussions.
Module compatibility	International Finance, Management Accounting, (Trade) Economics, Leadership and Management
Literature (excerpt)	■ Holt and Wigginton International Management. ■ Original journal articles (English and German articles) as required. ■ All literature available in Intranet.
Workload in full hours (= 60 minutes)	■ 65 hrs. Contact Hours ■ 20 hrs. Preparations of classes, mandatory reading ■ 15 hrs. Post processing of the lecture ■ 35 hrs. Written assignment ■ 45 hrs. Preparation for exam/ presentation Total workload: 180 hrs/ 6 ECTS

3.3.14 Management Accounting (Controlling)

Module coordinator	Prof. Dr. Preißler **In summer semester 2025:** **online-lecture / inverted classroom method**
Integration in curriculum	2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (General Management)
Duration	One semester
Module frequency and language	Winter semester (in English) ☐ Summer semester (in English) ☒
Method of examination and grading procedure	Written Exam (90 Min)
Prerequisites	Financial Accounting Basics
Learning objectives and skills	After successfully completing this module the students achieved the following main qualification targets and competencies: Remembering, understanding, applying, analyzing, evaluating and creating of Controlling / Managerial Accounting processes, instruments and cases. In particular: ■ Students recall, explain and elaborate subject-specific terminologies, controlling objectives and functions, process chains and instruments. ■ Based on real-life cases, the students demonstrate problem-solving competencies: they collect relevant data, select, develop and apply specific controlling instruments for analyzing, evaluation, prioritization, problem-solving and managerial decision-making. ■ Furthermore, the students critically question, formulate and prioritize appropriate theories of controlling challenges in different business models, functional controlling interfaces and recent developments

Module content	The course covers the following topics: ■ Subject-specific terminologies, Controlling objectives and functions, processes and instruments. ■ Day-to-day controlling processes, therein: guidance & cases; management reporting; decision-based cost accounting; KPI analysis, benchmarking, planning & cost variances, analysis, working capital management; IFRS Controlling; applied strategic controlling instruments, business cases etc. ■ Controlling challenges in different business models. ■ Functional controlling interfaces & strategic controlling Instruments. ■ Controlling and digitalization: recent developments and important terminologies
Teaching and learning method	This lecture focus on real-life day-to-day controlling processes and instruments. Based on cases and individual research, students will elaborate useful Controlling instruments and will critically analyze Controlling challenges in different business models. **Lecture format:** In summer semester 2022: hybrid lecture (mix of online and in-person lectures).
Module compatibility	This module is part of the elective modules of General Management. The qualification targets and competencies of this module include useful interfaces with the following MIFE Modules: ■ Compulsory Studies: submodule “International Financial Accounting”; Master thesis (tentatively). ■ Electives: “Merger & Acquisitions”; “Corporate Valuation and Value Based Management”; “Equity Financing and Venture Capital”.
Literature (excerpt)	■ Charifzadeh, M / Taschner, A.: Management Accounting and Control. ■ Preißler, G./Preißler, P: Entscheidungsorientierte Kosten- und Leistungsrechnung, 4. Auflage. ■ Seal, W./ Rohde, C./ Garrison, R. / Noreen, E.: Management Accounting. ■ Further literature by own research.
Workload in full hours (= 60 minutes)	■ 52 hrs. Contact Hours ■ 128 hrs. Self-studies Total workload: 180 hrs/ 6 ECTS

3.3.15 Data Analytics with Python

Module coordinator	Prof. Dr. Winkler **NOT in summer semester 2025**
Integration in curriculum	2. or 3. semester
Credit points	6 ECTS
Total workload	180 hrs.
Module type	Elective (General Management)
Duration	One semester
Module frequency and language	Winter semester (in English) ☒ Summer semester ☐
Method of examination and grading procedure	Practical examination (open book) and written exam (without any tools), (weight 50:50)
Prerequisites	Competences and knowledge that are comparable with those from the Business Informatics module of the Bachelor's program at TH Nuremberg.
Learning objectives and skills	After successfully completing this module, students have achieved the following main qualifications: ■ Students are able to analyze business data using the Python programming language. They can process and visualize data. Furthermore, they can communicate their results in the form of presentations and reports. ■ Attendees are able to plan and implement small data analysis projects. They are aware of the most common methods and technologies. Their fundamental knowledge enables them to extend their skills independently and to adapt to new developments. ■ While working on practical cases, students can assess and reflect on their own strengths and weaknesses with regard to data analysis. They have learned to deal with failures and to accept feedback from others as well as to give advice to them. ■ Students can work cooperatively and responsibly in small groups and critically reflect on their own behavior. They are able to present complex content clearly and to explain it to decision-makers.

Module content	The course covers the following topics: ■ Introduction to and practical exercises with Python: - Python basics - Calculation & variables - Jupyter notebooks - Data types - Boolean logic - Lists / dictionaries - Iteration - If-Then-Else - Introduction to Pandas - Working with data frames - Basic statistics - Debugging - Coding conventions - Data transformation - Data visualization ■ Basic business intelligence and data science techniques ■ Authoring of presentations and reports to communicate data analysis results
Teaching and learning method	The course focuses on the practical development of analytical software with Python. Students start by analyzing data and learn Python language features while doing this. Students analyze a real-world data set in small groups and communicate their results in form of a Jupyter notebook.
Module compatibility	Including useful interfaces with “Applied Quantitative Methods” and “Using Big Data to solve Problems in Business Administration and Economics”.
Literature (excerpt)	■ McKinney, W.: Python for Data Analysis, 2nd Edition, O'Reilly 2017 ■ https://github.com/Asabeneh/30-Days-Of-Python ■ https://ft-interactive.github.io/visual-vocabulary/
Workload in full hours (= 60 minutes)	■ 48 hrs. Contact Hours ■ 12 hrs. Preparations of classes, mandatory reading ■ 60 hrs. Tutorials/group work ■ 12 hrs. Post-processing of lectures ■ 48 hrs. Preparation for presentation and paper Total workload: 180 hrs/ 6 ECTS