Description of the modules for the Master degree
"International Innovation Management"

Modul-Nr./ Module Code	INNOM1000
Modulbezeichnung / Name of Module	**Innovation Management: Advanced Topics & Framework**
Semester	1st
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1010 Advanced Topics of Innovation Management
	INNOM1020 Innovation Frameworks & Facilitation Methods
Häufigkeit des Angebots des Moduls / The module is provided	Annually (winter semester)
Zugangsvoraussetzungen / Prerequisites for attending	None; A basic knowledge of Innovation Management is recommended
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Implementing Innovation Management requires a general understanding of the approaches to product, process and service innovations. From an organisational perspective, Innovation Management follows specific frameworks. To practically apply such frameworks to innovation projects, facilitation techniques are required.
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Björn P. Jacobsen
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Björn P. Jacobsen
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	6
Gesamtworkload und ihre Zusammensetzung / Workload and its composition	180 hours (116 h self-study; 64 h contact time)
SWS / Contact hours per week	2 (Lecture) / 2 (Seminar) — 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Written Examination 1 hour with an application practice (30 hours)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	**Knowledge & Understanding** Students understand the basics of innovation management. They learn how to organise innovation internally as well as including external expertise in the innovation process. They know how to take a systematic approach to innovation, from generating ideas to prototyping. **Applying knowledge and Understanding** Students will be required to identify, analyse and create process, product and service innovations. **Making judgements**

	Students learn to assess and optimise the approach to innovation and the potential contribution of innovation to the organisation's sustainability. Communication The results of the innovation process are documented and presented. Learning skills This Module prepares students for organising innovation processes in their organisation from the strategic setup to the operational implementation using proven innovation frameworks and tools.
Inhalte des Moduls / Syllabus	INNOM1010 Introduction to innovation: Definition and characteristics of innovation, Triggers of innovation, Types of innovation | Selected aspects of innovation organisation: Innovation by cooperation (Open Innovation), Corporate Innovation Centers
	INNOM1020 Background to Design Thinking (Rationale, What is Design Thinking?, History, Design Thinking in practice) | Design Thinking Space | Design Thinking process (Basics, Phase I - VI) | Design Thinking tools (Phase I - VI) | Design Thinking offline / online | Application of Design Thinking
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Asynchronous in the Learning Management System: Learning Elements, self-tests, forum with e-tivities Synchronous via Videoconference: Discussion of e-tivities and case studies Onsite workshop in an innovation lab.
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	INNOM1020 Onsite workshop in an innovation lab
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1010 Chesbrough, H. (2003) *Open Innovation*, Harvard Business Press, Boston, MA. Additional literature and material might be announced during the lecture. All titles in the current edition.
	INNOM1020 Brown, T. (2008) *Design Thinking*, HBR, 86, no. 6 Jacobsen, B.P. (2021) *Introduction to Design Thinking*, NMC Education Additional literature and material might be announced during the lecture. All titles in the current edition.

Modul-Nr./ Module Code	INNOM1100
Modulbezeichnung / Name of Module	**Basics and Methods of Future Research**
Semester	1st
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	-
Häufigkeit des Angebots des Moduls / The module is provided	Annually (winter semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Generating product, process and service innovations requires an understanding of the different futures. Future research helps to identify and analyse such futures and reduce the uncertainty in innovation management.
Modulverantwortliche/r / Lecturer in charge	Head of the degree course
Name der/des Hochschullehrer/s / Name of the lecturer	Lehrauftrag (IZT), Dr. Edgar Göll
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 self-study; 64 contact time)
SWS / Contact hours per week	4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Application practice (30 hours)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding about basic concepts, methods and tools of modern future research. Applying the acquired knowledge and understanding the options for application in different institutional contexts and innovation processes. Making judgements about the usefulness of specific methods and tools, and of various types of future studies. Communication of complex challenges and possible solutions (their specific pros and cons, chances and risks). Learning skills: future literacy, systems thinking, understanding complex and dynamic change processes and transformations.
Inhalte des Moduls / Syllabus	In this Module, selected concepts, goals and challenges of future research and future thinking will be presented and discussed on

	the basis of and in distinction to earlier forms of societal handling of the future and the associated uncertainty. The focus will be on social models and diagnoses that characterise an increased need for future-related knowledge - keywords in this context are second modernity, knowledge society, risk society, changing values, gender or individualisation. The possibilities and limits of scientifically recording the transformation processes described by these social models are also discussed, especially against the background of the foreseeable future social and civilisational challenges and disruptions.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Mixed methods: short lectures (Impulsreferate), videoclips, working on specific tasks in small groups, dialogues about basic issues and questions, feedback rounds.
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	Selected audiovisual media on future issues
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	Gidley, Jenifer M.: The Future: A Very Short Introduction: Oxford University Press 2017 ---------- Berg, Christian (2020): Ist Nachhaltigkeit utopisch? Wie wir Barrieren überwinden und zukunftsfähig handeln. München: oekom Verlag, München Grunwald, Armin (2009): Wovon ist Zukunftsforschung eine Wissenschaft. In: R. Popp, E. Schüll (Hg.): Zukunftsforschung und Zukunftsgestaltung. Springer-Verlag, S. 25-35 UNDP Global Centre for Public Service Excellence: Foresight Manual. Empowe-red Futures for the 2030 Agenda. Singa-pore, January 2018 Wright, Erik Olin, Envisioning Real Utopi-as, London, Verso 2010

Modul-Nr./ Module Code	INNOM1200
Modulbezeichnung / Name of module	Foundations for Innovation I
Semester	1st
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1210 Innovation and the Law
	INNOM1220 Financing Innovations
Häufigkeit des Angebots des Moduls / The module is provided	Annually (winter semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Other business, law or finance related degree programs
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Marcus Scheibel
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Christian Piroutek, LL.M.
	Prof. Dr. Marcus Scheibel
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 / 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 self-study; 64 contact time)
SWS / Contact hours per week	2 / 2 / 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Project work with a documentation (6.000 words) and presentation (ca. 20 minutes)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding Students gain essential knowledge of the tension field between the rapid development of digital technologies (Artificial Intelligence, the Internet of Things, Big Data, Platforms, Blockchain) and the emerging creation of new products and services (Google, Uber, Airbnb, Amazon, etc.) on the one hand and the law on the other hand. They understand that whereas legal authorities set the basic environment for any innovation, innovations may often lead to a need for an adaption of the law (e.g. autonomous driving or the regulation of digital platforms). In this context, the students get also acquainted with the impact of digitalisation and technological progress on specific areas of the law, e.g. on litigation and the court system. Furthermore, the students gaining knowledge of innovations in finance and new financial products to enhance the productivity / effectiveness of corporations, investors and the financial industry / markets.

	Applying knowledge and Understanding Students are in a position to independently apply and transfer their knowledge and learnings by engaging in case studies, exercises and discussions throughout the course. **Making judgements** Students are capable of identifying and analysing potential legal implications of innovations and the legal authorities that may apply in this context. Furthermore, students learn to assess the new financial products / tools versus the status quo and to evaluate the benefits for corporations, investors etc. **Communication** Students are enabled to communicate arguments and conclusions using basic legal or financial methodology and core legal or financial concepts by being actively involved in Q&A's, group exercises and discussions. **Learning skills** Students are enabled to understand and apply basic legal concepts and authorities by using legal methodology in the context of innovations. To this end, they get acquainted with (digital) tools for legal research and are able to independently identify and use primary and secondary legal sources in order to henceforth conduct their studies on the interface between law and innovation in a largely autonomous manner. This Module also provides students with the knowledge of certain financial innovations and their benefits for corporations, investors and financial markets
Inhalte des Moduls / Syllabus	**INNOM1210 Innovation and the Law** Introduction and overview of the challenges and opportunities that the rapid development of digital technologies and the related creation of new (data-driven) products and services create for the law and the legal market; Introduction to the legal authorities that may apply in the context of innovations, particularly to intellectual property law as a legal mechanism to protect innovations; Analysis and assessment of particular innovative approaches within the legal market

	(legal tech) and technology-driven challenges for the law (e.g. autonomous driving) in detail.
	INNOM1220 Financing Innovations Introduction and overview of financial innovations and its impact on financial markets, corporations, investors etc. Analysis and assessment of specific innovations in detail.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Combination of lectures and exercises
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1210 Innovation and the Law • Academic papers, newspapers, magazines • Lehavi A., Levine-Schnur R., Disruptive Technology, Legal Innovation, and the Future of Real Estate, Springer 2020 • Coralles M., Fenwick M., Forgó N. (eds), New Technology, Big Data and the Law, Springer • Corrales Compagnucci M., Forgó N. et al. (eds) Legal Tech and the New Sharing Economy, Springer 2021 • Coralles M., Fenwick M., Forgó N. (eds), Robotics, AI and the Future of Law, Springer 2018 • Coralles M., Fenwick M. Haapio H. (eds), Legal Tech, Smart Contracts and Blockchain, Springer 2019 • Susskind R., Online Courts and the Future of Justice, OUP 2019
	INNOM1220 Financing Innovations • Academic papers, newspapers, magazines, small case studies • Madura J., Fox R., International Financial Management (5th ed), Cengage • Alemany L., Andreoli J., Entrepreneurial Finance – the Art and Science of growing Ventures, Cambridge • Damodaran A., Investment Valuation – Tools and Techniques for Determining the Value of Any Asset (3rd), Wiley

Modul-Nr./ Module Code	INNOM1300
Modulbezeichnung / Name of Module	Selected Topics I: Sustainable Innovation
Semester	1st
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1310 Innovation for Sustainability
	INNOM1320 Transformation in Mobility
Häufigkeit des Angebots des Moduls / The module is provided	Annually (winter semester)
Zugangsvoraussetzungen / Prerequisites for attending	-
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	This Module will explore the role of innovation in sustainable development. Students will have an understanding of the theory and current policies which surround sustainability growth and competitiveness These will be illustrated with relevant transformations in manufacturing, agriculture and energy sectors. Our current Understanding of mobility and the alternatives, will also be included in this Module.
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Eileen Murphy
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Eileen Murphy
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 — 6
Gesamtworkload und ihre Zusammensetzung / Workload and its composition	180 hours (116 h self-study; 64 contact time)
SWS / Contact hours per week	2 / 2 — 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Written examination 2 hours
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding To articulate and utilise a working knowledge of issues concerning innovation and sustainability Applying knowledge and Understanding Students will understand how to apply concepts from innovation theory and apply them to environmental problems. Making judgements Students will learn to assess and analyse contemporary environmental and mobility issues using a combination of both academic and policy literature. Communication:

	Students will be required to justify and provide rationale for their arguments both in written form and through oral presentations Learning skills Students will learn how to integrate sustainable thinking and circularity into innovation projects for products and services.
Inhalte des Moduls / Syllabus	INNOM1310 Innovation for Sustainability: Rethinking value and profit – from greed is good to green is good – challenging the current business ethos – the sustainable development goals and circular economy Innovation embedded in sustainability – moving forward and commitment to change – managing science and policy.
	INNOM1320 Transformation in Mobility: Current mega trends in mobility – digitalisation and urbanisation, challenges for society - alternatives to the mobility narrative–networks and connectivity for freight and passenger transport.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Lectures, case studies, class discussions
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1310 Innovation for Sustainability: Business Models in the Circular Economy Concepts, Examples and Theory Roberta De Angelis (2018) Climate Smart Agriculture Concepts, Challenges, and Opportunities Dr. Pratap Bhattacharyya, Dr. Himanshu Patha… in Green Energy and Technology (2020)
	INNOM1320 Transformation in Mobility Transformation in Mobility Smart Mobility Exploring Foundational Technologies and Wider Impacts Alaa Khamis (2021) Development of an Eco-Routing App to Support Sustainable Mobility Behaviour Rebecca Heckmann, Lutz Gaspers, Jörn Schönberger in Innovations for Metropolitan Areas (2020)

Modul-Nr./ Module Code	INNOM1400
Modulbezeichnung / Name of Module	**Specific Topic II: Designing Digital Innovations**
Semester	1st
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1410 Introduction
	INNOM1420 Applied Project
Häufigkeit des Angebots des Moduls / The module is provided	Annually (winter semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Other business related or IT-related degree programs at our faculty.
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Jasminko Novak
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Jasminko Novak
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 3 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 h self-study; 64 h contact time)
SWS / Contact hours per week	2 2 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Application practice 60 hours)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding Understanding innovation processes for digital innovations. Knowing and understanding selected methods and techniques for human-centred design of digital innovations, e.g. new products and services in companies. Applying knowledge and Understanding Students are able to apply selected procedures, methods and techniques of human-centred development to a real-world problem in order to develop an innovative solution. They are able to effectively apply methods, techniques and tools to elicit user needs and to create mock-ups and prototypes in the development of an innovation idea. Making judgements Students are able to select the appropriate methods and techniques of user-centred development for the respective problem. They are able to check and critically assess the suitability of different solution approaches and

	innovation prototypes using appropriate evaluation methods.

<u>Communication</u>
Students are able to clearly and convincingly communicate ideas and results (e.g. in the group project). They know how to give feedback to team colleagues in the problem-solving process and how to discuss challenges in the innovation process.

Results of the practical exercises and project work in the application of introduced methods for the design of digital innovations are documented in the form of concept sketches, diagrams, process models, mock-ups and (interactive) prototypes, presented in class and discussed.

<u>Learning skills</u>
By solving real-world problems, analytical and constructivist learning strategies are taught and promoted. The students develop their abilities to deal effectively with complex, unstructured problems, which strengthens their ability to continue their studies in a goal-oriented and self-determined manner and to complete them effectively.
In particular, they deepen their ability to use theoretical knowledge to develop creative solutions to real-world problems. In group work, the further development of their teamwork skills and informal learning is promoted through knowledge exchange between peers. |
| Inhalte des Moduls / Syllabus | INNOM1410 Introduction
▪ Overview of modern innovation processes for developing digital innovations
  - Agile innovation processes
  - Selected case studies
▪ Methods and techniques of human-centred design
  - Principles of human-centered design
  - Prototyping methods and tools
  - User-centred evaluation techniques
▪ Design Sprint
  - Methodological introduction and analysis of the Design Sprint process

INNOM1420 Applied Project
▪ Hands-on Design Sprint workshop
▪ Applying the methods learned to develop and evaluate a prototype for a digital innovation for a real-world problem |
| Lehr- und Lernmethoden des Moduls / Teaching methods of the module | Lectures, case-studies, practical exercises, inverted classroom, discussion, presentation, group work, project work |

Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	- Tidd, J., Bessant, J., Managing Innovation: Integrating Technological, Market and Organizational Change (5th Edition), Wiley - The Art of Innovation, Tom Kelley und Jonathan Littmann, 2004, ProfileBooks Ltd. London. - Knapp, J., Zeratsky, J., & Kowitz, B. (2016). *Sprint: How to solve big problems and test new ideas in just five days*. Simon and Schuster. - Beyer, H. & Holzblatt, K. (1998). Contextual Design: Defining Customer-Centered Systems, Morgan Kaufmann - Greenberg, S. et al. (2011): Sketching User Experiences, The Workbook, Morgan Kaufmann. - Koskinen I., Zimmerman, J., Binder, T., Redström, J., Wensveen, S.. (2011). Design Research Through Practice: From The Lab, Field and Showroom. Waltham: Elsevier - Nielson, J. (1994). Usability Engineering, Morgan Kaufmann. - IDEO, The Field Guide to Human-Centered Design, https://www.designkit.org/resources/1

Modul-Nr./ Module Code	INNOM1500
Modulbezeichnung / Name of Module	Academic Research & Writing
Semester	2nd
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	-
Häufigkeit des Angebots des Moduls / The module is provided	Annually (summer semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Other business-related degree programs
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Natascha Loebnitz
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Natascha Loebnitz
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 self-study; 64 contact time)
SWS / Contact hours per week	4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Project work with a documentation (6.000 words) and presentation (ca. 20 minutes)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	At the end of the course, students will be able to: 1. to structure a scientific paper and write concise, clearly structured, consistently using scientific language, 2. properly define a research problem and hypothesis, 3. develop and choose an appropriate method that efficiently gathers necessary information, 4. choose the right sampling procedure, 5. analyze the data using the state-of-the-art methods 6. evaluate the research outcome correctly, which helps them to make smart and fact-based decision making.
Inhalte des Moduls / Syllabus	The module aims to provide the students with the necessary skills to correctly conduct a research study, and evaluate the findings from the corresponding study. Emphasis is given to the quantitative aspect of research, practical data analysis, and the interpretation of research result. The topics covered in the course includes scientific writing and citing

	techniques, research process and methods, research design, and sampling schemes.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	The module consists of lectures, exercises, and individual writing consultations. • The lectures explain the research process and empirical methods (qualitative and quantitative), scientific writing and citing techniques, structure of research papers, as well as the evaluation criteria for scientific publications. • The exercises provide the students the opportunity to apply the theory covered in the lecture part to research problem, which includes hypothesis development, method development, data collection, data entry and data analysis. • Feedback on submitted drafts will be provided in individual writing consultations.
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	Slides, textbooks, exercise on data analysis, (self)-study of literature is part of the module
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	TBA

Modul-Nr./ Module Code	INNOM1600
Modulbezeichnung / Name of Module	Foundations for Innovation II
Semester	2nd
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1610 Market Development Strategies
	INNOM1620 Customer Relationship Management
Häufigkeit des Angebots des Moduls / The module is provided	Annually (summer semester)
Zugangsvoraussetzungen / Prerequisites for attending	Basic Marketing
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	This Module provides a solid theoretical and practical foundation for all business activities related to dealing with potential and existing customers of innovation - from Understanding, planning processes to managing relations with them.
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Axel Noack
Name der/des Hochschullehrer/s / Name of the lecturer	Prof. Dr. Axel Noack
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 → 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 h self-study; 64 h contact time)
SWS / Contact hours per week	2 / 2 → 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Project work with documentation (6.000 words) and presentation (20 minutes)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding On the basis of a solid understanding of innovation and its diffusion, students are supplied with the necessary theoretical background to understand the processes involved in making and executing sound business decisions related to customers. Applying knowledge and Understanding Students apply the theoretical knowledge provided in current literature and case studies by working on practical projects that prepare them for up-to-date business practice. Making judgements Students are expected to devise and sustain comprehensive arguments about issues related to innovation diffusion and customer relationship management.

	<u>Communication</u> Effective communication of insights and arguments in written and oral form on a professional level is integral part of the learning experience. <u>Learning skills</u> This Module enables students to successfully deal with all challenges related to potential and actual customers of innovative products and services.
Inhalte des Moduls / Syllabus	INNOM1610 Market Development Strategies Elements of diffusion – Problem or need recognition – Research – Development – Commercialisation – Diffusion – Adoption – The innovation-decision process – Communication channels – Rate of adoption – Adopter categories – Diffusion networks – Change agents
	INNOM1620 Customer Relationship Management Introduction – Relationships – Customer journey – Acquisition, retention, development – Customer experience – Automation – Customer analytics – Implementation and management – Current trends.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Lectures, case studies, class discussions, project work
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1610 Market Development Strategies Kotler, Philip, Marketing 5.0: Technology for Humanity Ridley, Matt, How Innovation works, 2020 Rogers, Everett, Diffusion of Innovations, 5th edition, 2003
	INNOM1620 Customer Relationship Management Buttle, Francis, Customer Relationship Management: Concepts and Technologies Fatouretchi, Max, The Art of CRM: Proven strategies for modern customer relationship management, Packt Publishing 2019. Kingsnorth, Simon, Digital Marketing Strategy: An Integrated Approach to Online Marketing, 2019

Modul-Nr./ Module Code	INNOM1700
Modulbezeichnung / Name of Module	Foundations for Innovation III
Semester	2nd
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1710 Innovation Project Practice in Europe
	INNOM1720 Applied Project Management
Häufigkeit des Angebots des Moduls / The module is provided	Annually (summer semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	Without an understanding of project funding mechanisms - especially in a European context - students will not be able to successfully operate in an innovation environment increasingly influenced by (European) innovation policy and practices. Students will be required to put these skills into a practical application using an actual case in process, product or service innovation.
Modulverantwortliche/r / Lecturer in charge	Prof. Dr. Björn P. Jacobsen
Name der/des Hochschullehrer/s / Name of the lecturer	INNOM1710: Susanne Marx, M.A.
	INNOM1720: Prof. Dr. Björn P. Jacobsen
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 — 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 h self-study; 64 h contact time)
SWS / Contact hours per week	2 / 2 — 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Application practice (60 hours)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding Innovation, as one of the key objectives of European policy, is discussed from a projecting angle. Students know information sources to analyse innovation practices in Europe, to investigate funding opportunities for various settings and consortia and to analyse completed complementary projects. Students know and understand innovation policy in Europe and selected regions. Students are aware of the specific requirements of inter-organisational projects as a prevailing setup of European funded projects. They are acquainted with a European project management methodology (i.e. PM2), focusing on initiating and planning

	phases to support innovation project application for European funding. They know exemplary processes for applying for European funds.
	Furthermore, students gain essential insight into the practical initiation (project funding application) and planning externally/publicly funded innovation projects.
	Applying knowledge and Understanding Students can apply elements from the initiating and planning phase of a European project management methodology to specific cases and adapt these to funding requirements. They know how to use innovation policies and previous European projects to justify their argumentation for project funding. Students prepare and carry out each step in applying for an external/ publicly funded innovation project. That includes identifying suitable funding programmes, identifying potential (internal and external) project partners, and drafting the project application, including the project setup and securing the co-financing.
	Making judgements The students can evaluate the status of innovation in Europe for specific industries. They are capable of analysing and arguing for a selection of possible European funding sources. Students can assess project stakeholders in interorganizational project settings, evaluate the suitability of a project idea for a source of funding, and develop the logic in a project application.
	Furthermore, students will learn how to identify and use promising support programmes. They can differentiate between different programmes and project approaches to select the most suitable approach.
	Communication Students can communicate using professional language from European project management methodology and for applications for funding by European sources. They are capable of arguing for innovation projects by the use of European policies. They can give qualified peer-feedback to topics of innovation projects in Europe. The focus is on developing writing skills to foster the competence for designing applications for funding for European innovation projects.

	Results of (group) work are presented in oral and written form (reports, minutes, project documents). Learning skills The students learn in a blended online mode of synchronous and asynchronous learning elements with a constructivist approach. Regularly, students follow a learning element in the learning management system, with video, text and additional literature. Self-tests support their learning process directly. E-tivities, i.e. online tasks, help construct and apply knowledge and learn from and give peers feedback. Results of e-tivities and case studies are discussed in synchronous sessions. The students gain self-organisation, independent qualitative information search and time management, supporting life-long learning strategies as professionals. Moreover, this Module prepares students for applying project management skills to be used in the context of externally/publicly funded innovation projects. Students learn to interact with stakeholders in the project organisation.
Inhalte des Moduls / Syllabus	INNOM1710 Innovation Project Practice in Europe Status of Innovation in Europe | Support Structures and Policies for Innovation in Europe | European Funding for Innovation | Interorganizational Projects | European Project Management Methodology | Case: Developing an Application for Funding for an Innovation Project
	INNOM1720 Applied Project Management The project work topics change from year to year based on funding sources/calls for proposals.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Asynchronous in the Learning Management System: Learning Elements, self-tests, forum with e-tivities Synchronous via Videoconference: Discussion of e-tivities and case studies
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	The course is realised fully online with an alternation of synchronous and asynchronous learning elements.

Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1710 Innovation Project Practice in Europe Cropper, S., Ebers, M., Huxham, C. and Smith Ring, P. (2008) *The Oxford Handbook of Inter-organisational relations,* Cropper, S., Ebers, M., Huxham, C. and Smith Ring, P. (eds.), Oxford University Press: Oxford. European Commission (2018) *PM² Project Management Methodology Guide 3.0*, Brussels/Luxembourg: European Commission. Additional literature and material will be announced during the lecture. All titles in the current edition.
	INNOM1720 Applied Project Management As far as the literature is not made available in the Learning Management System, it will be announced during the lecture.

Modul-Nr./ Module Code	INNOM1800
Modulbezeichnung / Name of Module	**Selected Topics III: Data Science & AI for Business Innovation**
Semester	2nd
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1810 Business Applications of Data Science & AI
	INNOM1820 Introduction and communication of AI in organisations
Häufigkeit des Angebots des Moduls / The module is provided	Annually (summer semester)
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	All computer science related majors and business majors with a Data Science/AI fundamentals component.
Modulverantwortliche/r / Lecturer in charge	WS4
Name der/des Hochschullehrer/s / Name of the lecturer	WS4
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 → 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (64 self-study; 116 contact time)
SWS / Contact hours per week	2 / 2 → 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Written Examination 1 hour with Application practice (30 hours)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	11,11 %
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding Students are familiar with fundamental issues, techniques, and methods of Data Science and AI. They understand selected examples of applications of data analysis and AI in the business environment. Students know how actionable insights can be gained in complex scenarios using appropriate methods and tools. They understand that a process of analysis, prediction, or interpretation always requires modeling and is a work of abstraction. Applying knowledge and Understanding Students are able to apply software tools and corresponding processes to apply data science or AI methods to typical business problems and scenarios. They can design suitable solutions for data-oriented analysis, classification and prediction problems in the context of typical applications in the business domain.

	Making judgements
	Students are able to formulate alternative solutions for applying Data Science or AI to a concrete problem. They are able to analyse and critically evaluate the suitability of the developed solution concepts with regard to meeting the requirements of the problem and their respective advantages and disadvantages.
	Students are able to critically question the concrete use of specific methods of data analysis or AI in the business environment and to assess the limitations of specific models. They are able to provide argumentative support for the insights gained and the solution concepts developed and the decisions made.
	Communication
	Students are able to critically reflect on and communicate their insights and assessments from the use of Data Science and AI in a given business scenario in a generally understandable way.
	Learning skills
	Following a constructivist approach new concepts are worked out using examples and case studies in dialogue with the students. Students develop their skills of constructivist learning through the use of appropriate tools and application environments for AI and Data science. This is deepened in subsequent assignments in small groups and individually.
	Small teams independently perform typical, practice-oriented tasks, document them and present them in plenary sessions. Students use relevant information sources (online, textbooks) to acquire new concepts based on examples.
Inhalte des Moduls / Syllabus	**INNOM1810 Business Applications of Data Science & AI** • Prediction, classification, learning, inference • Software tools for data science and AI in the business environment • Analysis and interpretation of data • Data mining and data preparation • Modeling, simulation • Representative case studies from the business domain
	INNOM1820 Introduction and communication of AI in organisations • Introducing the use of Data Science/AI methods in organisations

	• Guidiing principles for AI organisations • Presentation of Data Science/AI results • Identification of different stakeholders and their needs • Preparation of results for different target groups • Creation of a management summary • Presentation of Data Science/AI results to different target groups
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Project work, group work, regular team meetings with the supervisor Seminar-like lecture, laboratory exercise, accompanying independent learning, work in application projects
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	-
Literatur / Literature (Pflichtlektüre/zusätzlich empfohlene Literatur)	INNOM1810 Business Applications of Data Science & AI Provost & Fawcett (2013), Data Science for Business. O'Reilly Zumel, N. & Mount, J. (2019): Practical Data Science with R (2. Aufl.). Manning. Russell, S., Norvig, P. (2020), Artificial Intelligence (4th ed.). Pearson. https://www.elementsofai.com/ Further literature and online material will be announced in the course. INNOM1820 Deployment and communcation of AI in organisations Provost & Fawcett (2013), Data Science for Business. O'Reilly Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons. Kruhse-Lehtonen, U., & Hofmann, D. (2020). How to define and execute your data and ai strategy. Fjeld, J., Achten, N., Hilligoss, H., Nagy, A., & Srikumar, M. (2020). Principled artificial intelligence: Mapping consensus in ethical and rights-based approaches to principles for AI. *Berkman Klein Center Research Publication*, (2020-1). Open Data Institute (2019), Data Ethics Canvas, https://theodi.org/article/data-ethics-canvas/ (Letzter Zugriff: 13.05.2021) Gürses, S., Troncoso, C., & Diaz, C. (2011). Engineering privacy by design. *Computers, Privacy & Data Protection, 14*(3), 25. Further literature and online material will be announced in the course.

Modul-Nr./ Module Code	INNOM1900
Modulbezeichnung / Name of module	**Innovation Field Trip**
Semester	2nd
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM1910 National
	INNOM1920 International
Häufigkeit des Angebots des Moduls / The module is provided	Each semester
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	In the sub-module 'National', the students will deepen their theoretical knowledge acquired from their studies. They will see how real business is run and how theoretical models are applied. In the sub-module 'International' students will significantly improve their international and cross-cultural competence.
Lehrsprache / Language of Instruction	English
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	3 / 3 → 6
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	180 hours (116 h self-study; 64 h contact time)
SWS / Contact hours per week	2 / 2 → 4
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Project work with a documentation (3.000 words) and a presentation (20 minutes)
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	-
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge & Understanding Students become acquainted with destinations known for their innovativeness. They deepen their international and cross-cultural competence. Furthermore, students learn about a variety of companies. Applying Knowledge & Understanding Under the guidance of the professor in charge, students prepare the excursion and contribute to the final report. Moreover, this Module is mainly designed to establish a strong link between theoretical knowledge and the requirements of day-to-day business processes. Making judgments Students learn to notice and consider the differences between regions, and institutions. Students learn to assess the validity of theoretical concepts in current business life.

	Communication Results of (group) work are presented in oral and written form (reports, minutes, excursion reports) Learning skills This Module prepares students for the organisation of further excursions. This Module is a linking step between theoretical modules, and work after graduation
Inhalte des Moduls / Syllabus	Specific topics depending on the academic profile of the professors in charge. General structure: • a preparation phase, in which students acquaint themselves with the companies/institutions/ universities to be visited • the preparation of questions for the visit • visiting the company / institutions / university themselves and • the preparation of the written report.
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Project (individual data pooling, group work, group discussion, preparation of a field trip report, preparation of a video spot)

Modul-Nr./ Module Code	INNOM2000
Modulbezeichnung / Name of Module	**Internship and Evaluation**
Semester	3rd semester
Dauer des Moduls / Length of Module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject for the 4-semester programme
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	-
Häufigkeit des Angebots des Moduls / The module is provided	Each Semester
Zugangsvoraussetzungen / Prerequisites for attending	None
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	The Module serves to deepen all previously acquired knowledge and skills - especially the practical application in the company.
Lehrsprache / Language of Instruction	English or German (depending on the company)
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	30
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	900 hours (60 hours evaluation; 840 hours internship)
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Written report
Gewichtung der Note in der Gesamtnote / Percentage of overall mark	-
Qualifikationsziele des Moduls / Learning outcomes of the Module	Knowledge and Understanding Deepen knowledge gained during the prior semester as well as their first study. Gain new understanding in various fields of management, business and innovation. Applying knowledge and Understanding Students are able to connect and apply theoretical knowledge with practical experiences due to direct contact with enterprises/institutions and organisations. Making judgements Critical thinking and reflection skills by preparing a practical report. Working within a company will help students growing in personality and to increasing their social skills. Communication Working within a team will increase 'students' communication skills. Preparing a report to enhance students' ability to reflect their work as well as their internship in general critically and to present those results. Learning skills

	Students will enhance their awareness and ability to make decisions when it comes to deciding on their future professional activities.
Inhalte des Moduls / Syllabus	Internship of 21-weeks
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Field study

Modul-Nr./ Module Code	INNOM2100
Modulbezeichnung / Name of module	Master Thesis
Semester	3rd or 4th
Dauer des Moduls / Length of module	1 semester
Art des Moduls (Pflicht, Wahl, etc.) / Module type (Compulsory, Elective etc.)	Compulsory subject
Ggfs. Lehrveranstaltungen des Moduls / if applicable: Sub-module	INNOM2110 Master Thesis
	INNOM2120 Colloquium
Häufigkeit des Angebots des Moduls / The module is provided	Each Semester
Zugangsvoraussetzungen / Prerequisites for attending	INNOM2110 Master Thesis: The mandatory number of ECTS-points is: • 48 ECTS-points for the 3-semester programme • 78 ECTS-points for the 4-semester programme (incl. INNOM2000 Internship and Evaluation) INNOM2120 Colloquium: The mandatory number of ECTS- points for the Master's Thesis Colloquium is: • 88 ECTS-points for the 3-semester programme • 118 ECTS-points for the 4-semester programme
Verwendbarkeit des Moduls für andere Module und Studiengänge / Applicability of the module for other modules and degree courses	The Module is the final element of the studies, with students having to bring together all theoretical and practical skills gained in the course of 2 or 3 semesters.
Lehrsprache / Language of Instruction	English or German (depending on the company for which the Master Thesis is written)
Zahl der zugeteilten ECTS-Punkte / Number of ECTS credits	Master Thesis: 28 / Colloquium: 2 — 30
Gesamtworkload und ihre Zusammen-setzung / Workload and its composition	900 hours (self-study)
Art der Prüfung (Voraussetzung für die Vergabe von Leistungspunkten) / Type of assessment (Requirements for awarding credit points)	Written Master Thesis with subsequently presentation (colloquium) of the Master Thesis
Qualifikationsziele des Moduls / Learning outcomes of the Module	Students show evidence that – based on theoretical and practical knowledge, skills and competencies achieved during their studies – they can independently design research. They demonstrate the ability to work scientifically

	and methodological appropriate to postgraduate levels in business and management. Also, their work contributes holistically to their personal set of values.
Inhalte des Moduls / Syllabus	Bringing together aspects of learning from previous modules as well as using this learning as the basis for planning, conducting and writing up a research-based project
Lehr- und Lernmethoden des Moduls / Teaching methods of the module	Counselling, scientific colloquium, self-study, independent research
Besonderes (z.B. Online-Anteil, Praxisbesuche, Gastvorträge, etc.) / Special Features	Preferably in cooperation with a company