Hochschule Kaiserslautern
University of Applied Sciences

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Module Manual
distance learning program

MBA (Master of Business Administration)
Innovations-Management

Fernstudium
MBA-FERNSTUDIENGÄNGE
im Hochschulverbund

State: 07.03.2023

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Curriculum

1. Semester	ECTS	teaching units/ self-study in h	exam
Module 1:Management-Framework	**10**	**18/236**	**KL**
Holistic Management Business Administration Basics I Business Administration Basics II Traditional Value Chain New Concepts Sustainability in operational Value Creation Processes Meaning and interpretation of Innovation Processes and Procedures in Innovation Management Innovation of products, processes, business models and organisations			
Module 2: Communication & Soft Skills for Leadership	**5**	**16/113**	**SA**
Rhetoric for customer contact Negotiation and argumentation techniques Intercultural Management Methodological Competence			
Modul 3: Marketing-Politics and Strategy	**5**	**10/118**	**SA**
Fundamentals and Strategy I: Market-oriented Management of Marketing and Sales Fundamentals and Strategy II: Strategic Analysis and Strategy Development			
	20	**44/467**	

ECTS: European Credit Transfer System, teaching unit: 45 min, KL: written or oral exam, SA: term paper

2. Semester	ECTS	Teaching units/self-study in h	exam
Module 4: Performance and Financial Management	**10**	**22/233**	**KL**
Management Accounting and Financial Reporting: Cost and Profit Management Financial Management and Controlling			
Module 5: Marketing: Market Research and Customer Management	**5**	**10/118**	**SA**
Information Management for Marketing Market Psychology Topic of the Year Case Study Seminar on Marketing			
Module 6: Management: Economics & Quantitative Analysis	**5**	**10/117**	**KL/SA**
Economics: Macroeconomics Data Analysis: Statistics			
	20	**42/469**	

ECTS: European Credit Transfer System, teaching unit: 45 min, KL: written or oral exam, SA: term paper

3. Semester: Innovations-Management	**ECTS**	**Teaching units/self - study in**	**exam**
Module 21: Innovation Management in Companies - Successfully designing innovation processes - Intellectual Property Management - Fundamentals of Law and the Handling of Knowledge, Trade Secrets and Intellectual Property - Value-based innovation management - Digitization and sustainability as significant innovation characteristics - Digital disruption in innovation management - Emergence and development of innovative successful companies - case studies	**7**	**16/163**	**KL**
Module 22: Human Aspects of a Corporate Strategy and Culture Promoting Innovation - Strategy development and implementation to promote innovation - Understanding creativity and developing leadership skills that promote innovation - New work: Designing forms of work that promote innovation	**6**	**16/138**	**SA**
Module 23: Methodologies for Systematic Innovation Management - Innovation Methodology TRIZ: Innovative Idea Generation and Problem Solving - Innovation Methodology DESIGN THINKING: Human Centered Innovation - Innovation preview with patterns, trends and evolutionary methods	**7**	**16/163**	**SA**
In total:	**20**	**48/464**	

ECTS: European Credit Transfer System, teaching unit: 45 min, KL: written or oral exam, SA: term paper

4. Semester: Master Thesis Semester	**ECTS**	**Teaching units / self-study in h**	**exam**
Module 13: International MasterThesis Seminar (Out-of-Campus) Business and Corporate Ethics International Management	**4**	**32/68**	**SL**
Module 14: Master –Thesis and Colloquium	**26**	**0/650**	**MT**
In total:	**30**	**32/718**	

ECTS: European Credit Transfer System, teaching unit: 45 min, MT: Master Thesis, SL: course credit, SA: term paper

Modules

<table>
<tr><th colspan="7">Management-Framework</th></tr>
<tr><td colspan="2">Module 1</td><td>Workload
250 h
(10 ECTS * 25h)</td><td>Credits
10
ECTS</td><td>Semester of study
1. Sem.</td><td></td><td>Duration
1 Semester</td></tr>
<tr><td>1</td><td colspan="2">Courses
<u>M 1.1 Business Administration Basics</u>
- Holistic Management
- Basic Business Administration I
- Basic Business Administration II
<u>M 1.2 Operational Processes</u>
- Traditional value chain
- New concepts (holistic production system, supply chain management)
- Sustainability in operational value creation processes
<u>M 1.3 Basics of innovation management</u>
- Meaning and interpretation of innovation
- Processes and procedures in innovation management
- Innovation of products, processes, business models and organizations</td><td>Contact time
18
Lesson units
or
13,5 h</td><td>Self study time
236,5 h</td><td></td></tr>
<tr><td>2</td><td colspan="6">Learning outcomes / Competences
<u>M 1.1 Business administration basics</u>
After studying this submodule, students will be able to
- explain basic economic terms as well as classify and evaluate economic activities;
- understand how entrepreneurial thinking works and the importance of corporate management;
- describe essential operational tasks as well as ideal-typical individual economic and cross-company processes;
- understand the most important legal forms of companies as well as the significant differences between partnerships and corporations;
- define central concepts of organizational theory and describe different organizational forms;
- understand accounting as a numerical representation of the company's activities
<u>M 1.2 Operational processes</u>
After studying this submodule, students will be able to</td></tr>
</table>

	- define the terms procurement, production and distribution logistics and know how the logistics process is integrated into the company's operations and that interfaces exist with business partners, customers and suppliers; - explain essential principles of material supply and their areas of application; - outline the basic planning stages of production logistics with their essential functions; - describe the steps necessary to transfer goods from a company to its customers; - show potentials of new logistic concepts, which have also emerged due to the influence of information and communication technologies, especially the internet, - explain the elements of the Toyota Production System, - understand the development of supply chain management and recognize the bullwhip effect as a driver of SCM, - identify the potential of new logistics concepts that have also emerged due to the influence of information and communication technologies, especially the Internet, - explain the elements of the Toyota Production System, understand the evolution of supply chain management and recognize the bullwhip effect as a driver of SCM, - address the issue of sustainability across the board in relation to the 17 UN Sustainable Development Goals. - understand sustainability as a new approach to quality in companies and work out ways to cope with the enormous demand as well as the scarcity of resources and the significant increase in energy costs. <u>M 1.3 Basics of innovation management</u> After studying this submodule, students will be able to - explain the meaning of innovation; they know different definition approaches from theory and practice and can distinguish the different models and views (e.g. innovation as process vs. innovation as result) from each other; - differentiate between incremental, radical and disruptive innovations and demonstrate this differentiation using examples from the content of M 1.1 and M 1.2; - explain and analyse the connections, overlaps and differences between innovation or innovation management and thematically related terms and approaches (e.g. invention and technology management); - differentiate open innovation as an innovation paradigm from closed innovation and explain the basics as well as examples of methods and approaches of open innovation (e.g. hackathons, idea contests and other crowdsourcing tools, start-up integration, lead users, cooperations, etc.); - explain the relevance and goal orientations of managing innovation activity, and identify and describe building blocks of strategic innovation management; - understand business model (e.g. digital/free/open business models), organizational (e.g. agile, scrum, new work) as well as product and process innovations as fields of innovation management and name examples; - describe the basics of innovation portfolio management; explain the basic innovation process models and (e.g. traditional models, phase-gate models, lean innovation, etc.) from literature and practice in the context of operational innovation management.
	Contents <u>M 1.1 Business administration basics</u>

	The submodule M 1.1 introduces the basics of business administration and corporate management. The starting point is economic activity and economic action in economic units and systems. The economic terms which serve the understanding of business administration or which must be known when dealing with business administration and its application in practice are considered. The tasks of a company, its integration into the environment as well as entrepreneurial processes in the form of goods, money and information economic processes are presented as a basic prerequisite for understanding management activities. A brief overview of the tasks and sub-areas of accounting, the recording of flows of goods and money in financial accounting and the structure of the balance sheet and income statement form the basis for the introduction to accounting. Important fundamental decisions of the management determine the framework in the long run for an enterprise. With the choice of the legal form, one of the most important decisions is already made in the foundation phase of the enterprise. Later the enterprise must adapt to changed environmental conditions, in addition co-operations or other enterprise connections can be entered. As a further important decision area the organization system is treated. <u>M 1.2 Operational processes</u> The important aspects in submodule 1.2 are: - market and process-oriented value creation and service provision; - design of market development processes: marketing, innovation and their interdependencies; - organization of the Supply chain processes: production, logistics, procurement and their interdependencies; - introduction to Industry 4.0; - sustainability in operational value creation processes; - innovation. This sub-module serves as a basic introduction to operational value creation processes and the planning sub-areas of production logistics. The students know the terms of production, distribution and procurement logistics and the connections to marketing and innovation. In addition, there is an introduction to the areas of Industry 4.0. Submodule 1.2 looks at the operational performance process in its operational function as well as at the planning and scheduling level. Due to the different flows of goods, different sub-processes are distinguished: the movement of production factors between suppliers and the company, production logistics with the process of service creation and utilization, and the movement of the created services from the company to the customer. Production logistics, which is divided into the areas of production planning and realization, accompanies the flow of orders from primary requirements planning to the completion of production orders. In addition to determining the optimum production program, demand planning and time and capacity management as the main planning processes, production control is treated as the implementing functional unit. The new concepts consider above all the new developments in logistics as well as their holistic approaches to production planning and control. The Toyota Production System is explained here as representative of new concepts.

	The influence of current megatrends on logistics and the development of supply chain management expand operational performance processes to include global supply and customer networks. The development and drivers of SCM are explained using practical examples. With the 2030 Agenda for Sustainable Development, the United Nations (UN) expresses its conviction that global challenges can only be solved together. The Agenda lays the foundation for shaping global economic progress in harmony with social justice and within the earth's ecological limits. At the heart of the Agenda is an ambitious set of 17 Sustainable Development Goals (SDGs). For the first time, the 17 SDGs take equal account of all three dimensions of sustainability - social, environmental and economic. The guiding principle of the Circular Economy is to keep raw materials largely free of waste and emissions in the economic cycle for as long as possible. To this end, discarded products or materials must be kept at the highest possible value-added stage after their original use. In order to realize such a circular economy, adapted logistics concepts for coordinating material and information flows are inevitable, in addition to approaches to recycling-friendly product design and new business models. <u>M 1.3 Basics of innovation management</u> This sub-module focuses on the innovation management of an organization or a company, which has reference points and overlaps with all other management areas. The significance of innovation is addressed by explaining various definitional approaches and perspectives on the topic from theory and practice. In addition to the understanding of innovation as a result of activities, the understanding of innovation as a process is elaborated, which can either be built up within the framework of innovation management or implicitly reflected in the management fields of the organization. Fundamental to the management of innovation is, among other things, the ability to differentiate innovation with regard to various triggers, its degree of novelty or its effects. Helpful models (e.g. technology push, market pull, interactive models) and categories (e.g. incremental, radical, disruptive innovation) are presented in this submodule. With the help of examples from M 1.1 and M 1.2, these concepts can be easily interpreted and understood. Open innovation is a very important innovation paradigm and is sharply distinguished from classic closed innovation. Especially for open innovation, many methods and tools can be found in practice today that are fundamentally different from classic closed innovation tools (e.g. hackathons, idea contests and other crowdsourcing tools, start-up integration, lead users, etc.). Innovation management has strategic and operational dimensions. While the strategic dimension contributes to the realization of the organizational strategy, the operational dimension shapes the actual operations and processes within the strategic framework, which are explicitly designed in many organizations (e.g., traditional models, phase-gate models, lean innovation, etc.). Especially in recent times, business model (e.g., digital/free/open business models) and organizational (e.g., agile, scrum, new work, design thinking culture) innovations have increasingly taken the stage in this context - these innovation fields go hand in hand with the consideration of the more classically shaped fields of managing product, service, and process innovations and often even move to the forefront of innovation activity.
4	**Teaching forms/languages**

	Blended learning as learning organization of documents in combination with attendance days (such as lecture, teaching talk, project work) and e-learning as well as self-study and multimedia possibilities of lecturer consultation etc. The attendance days use especially activating forms of teaching and learning, e.g. group work and presentation, discussion, seminar lecture, if necessary case studies. Teaching language: German and English
5	**Participation requirements** None special
6	**Type of exam** Written exam
7	**Requirements for the award of credit points** Passed exam
8	**Use of the module** (in other study programs) -
9	**Significance of the grade for the final grade** According to examination regulations weighted with 10 / 90 ECTS points
10	**Module representative and lecturers** Module representative Prof. Dr. Bettina Reuter Lecturers: Prof. Dr. Bettina Reuter, Prof. Dr. Walter Ruda, Prof. Dr. Christian Thurnes,
11	**References**: Ansoff, H. Igor/Kipley, Daniel et al.: Implanting Strategic Management Third Edition, palgrave macmillan, 2018. 3 Berner, George: Management in 20XX: what will be important in the future, Siemens, 2004. 3 Biazzo, Stefano/Garengo, Patrizia: Performance Measurement with the Balanced Scorecard. A Practical Approach to Implementation within SMEs, Springer Verlag, 2012. 3 Bieger, Thomas: Marketing concept – The St. Gallen Approach, UTB, 2015. 2 Capaul, Roman/Steingruber, Daniel: Business Studies. An Introduction to the St. Gallen Management Model, Cornelsen, 2014. 1 Ciolfi, Jennifer L./Stuart, Stephen: Organizational Succession in F1: An Analysis of Bernie Ecclestone's Roles as CEO of Formula One Management, in: International Journal of Motorsport Management, Volume 2 | Issue 1 Article 1, 11-15-2013 1

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Huber, Margit/O`Gorman, Susanne: From Customer retention to a Holistic Stakeholder Management System: Living a Vision, Springer, 2010. 2

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	Christensen, C.M.: The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail, Reprint. Harvard Business School Press: Boston, 2016. Caldwell G.: Lean Mastery: 8 Books in 1 - Master Lean Six Sigma & Build a Lean Enterprise, Accelerate Tasks with Scrum and Agile Project Management, Optimize with Kanban, and Adopt The Kaizen Mindset, 2020. DK: The business Book: Big Ideas Simply Explained, 2014. Krause H.-U./DayanandA.: Key Performance Indicators for Sustainable Management: A Compendium Based on the "Balanced Scorecard Approach", De Gruyter 2019. Osterwalder, A.; Pigneur, Y.: Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. John Wiley & Sons, 2010 (deutsche Fassung: 2011). Project Management Institute: Standard for Portfolio MGMT, 2018. Swanson, L.A.: Business Models: Entrepreneurship and Innovation Toolkit. 3rd ed., The Open Course Library 2019. Download: https://openpress.usask.ca/entrepreneurshipandinnovation-toolkit/ . Trott, P.: Innovation management and new product development. 7th ed. Harlow: Pearson Education Limited 2020 Tidd, J.; Bessant, J.: Managing Innovation – Integrating Technological, Market and Organizational Change. 7th ed. Southern Gate: Wiley 2020. Von Hippel, Eric v. Democratizing Innovation. Cambridge: The MIT Press, 2005. Download: https://web.mit.edu/evhippel/www/books/DI/DemocInn.pdf . Zlotin, B.; Zusman, A.; Thurnes, C.: Directed Evolution. Kaiserslautern: Synnovating 2015.

<table>
<tr><td colspan="6">Communication & Soft Skills for Leadership</td></tr>
<tr><td colspan="2">Module 2</td><td>Workload
125 h
(5 ECTS * 25 h)</td><td>Credits
5 ECTS</td><td>Study Semes-ter
1. Sem.</td><td>Duration
1 Semester</td></tr>
<tr><td>1</td><td colspan="2">Courses
M 2.1 Intercultural management
M 2.2 Methodological competence</td><td>Contact time
12 lessons= 9 hours</td><td>Self-study
116 hours</td><td></td></tr>
<tr><td>2</td><td colspan="5">Learning outcomes / competencies
M 2.1 Rhetoric for customer contact
After completing this sub-module, students can
- recognize the connections between speaking behavior and personality;
- learn to assess speech situations;
- recognize the differences between writing and speaking grammar;
- master the different phases of preparing lectures;
- Use possibilities of topic development and topic development;
- understandably understand the factors of intelligibility and technical issues;
- analyze the logical connections of argumentative speech and organize your own argumentative statements according to argumentation plans;
- classify the relevance of intonation and speaking technique;
- Develop keyword concepts on various topics;
- Identify relevant behavioral aspects when speaking in groups.
S 2.2 Negotiation and argumentation techniques
After completing this sub-module, students can
- Recognize the general conditions and factors influencing the possibility of persuasive communication in the sales and advisory interview;
- Define forms, goals, phases of sales talks;
- Understand the customer's product assessment and purchase decision as the result of an influenceable complex information processing process;
- recognize the influence of verbal, paraverbal and non-verbal behavior on the outcome of sales talks and negotiations based on the approaches of interaction theory and the theory of persuasive communication;
- Understand customer orientation and willingness to solve problems as the basis of social techniques to be used;
- recognize communication that encourages and hinders conversation;
- argue based on problems and motives;
- use various techniques of argumentative reference to customer argumentation;
- define different paradigms of negotiation;
- recognize the structure of objection sequences and forms of processing (objection treatment);
- define the key aspects of preparing and conducting a negotiation.</td></tr>
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	M 2.1 Intercultural management After completing this sub-module, students can - distinguish between self-image and external image; - define cultural terms; - differentiate between cultural levels; - apply cultural models; - consciously experience cultural standards; - report on the philosophy and characteristics of the culture considered in the course; - demonstrate knowledge of their markets and developments; - recognize verbal and non-verbal communication differences; - Successfully master business negotiations. **M 2.2 Methodological competence** After completing this sub-module, students can - Name methods for generating ideas and solving problems, make a situation-specific selection and apply selected methods: - classic intuitive-creative methods (e.g. brainstorming and various variants thereof, 635, etc.); - classic systematic-creative methods (e.g. morphological box, scamper, etc.); - selected current creative techniques from common methodological works such as systematic creativity and design thinking (e.g. trend inspiration, 9 Windows canvas, powers of 10, extreme users etc.); - describe current methodological frameworks and workshop formats (e.g. design thinking, lean events, Lego® Serious Play® workshops, card board engineering and prototyping), assign different objectives and apply them in selected parts, - Put problem solving techniques (e.g. A3 problem solving, Toyota Kata) and decision making models into practice, - apply techniques to optimize target and time or self-management, - hold presentations geared towards target groups, - moderate presentations or discussions, - Implement knowledge of learning techniques.
3	**Contents** **M 2.1 Intercultural management** Interpersonal and business dealings in foreign markets is a core competence, especially in global competition, which is to be trained by this sub-module. The contents relate primarily to the Asian market, especially China, but are initially supported by a general chapter on culture and exercises on selective perception (external image / self-image). On the basis of this sub-module, students should come to the conclusion that self-image and external image do not have to match (selective perception). With the help of various exercise types, cultural awareness is to be achieved. In addition to a general awareness of cultural differences, this sub-module also develops various cultural terms and models. So far, a pool of examined cultures or cultural circles has been built

	up. The lecturers in this sub-module were particularly experienced in the Thai, Indian, French and Chinese economy and culture. Russia, Brazil and Turkey are also. The aim is to get to know and implement the ability to act in different markets. **M 2.2 Methodological competence** This sub-module shows the variety of different work, presentation and creative methods. It enables a rough classification of different methods, so that in the application no methods have to be used blindly, but a conscious choice can be made. Existing frameworks and collections of methods (e.g. various design thinking phase models, problem solving A3, Triz, Toyota Kata, etc.) are roughly explained, especially in the area of creative and problem solving methods. The variety of methods in this field is very large and every year there are new methodological offers, the degree of novelty of which varies greatly. The approaches presented, both classic and modern variations, make it possible to determine the right tools for yourself and the situation by exploring and trying them out. This sub-module lays the knowledge base for the application of work, presentation and creative methods. However, competence development also includes the use of the methods in the further study phases, when working out solutions in homework or seminar work, in the master's thesis and in everyday professional life. The face-to-face event offers the opportunity to experi- ence and try out more unusual current methods for yourself, which also facilitates individual skills development.
4	**Teaching forms/ languages** Blended learning as a learning organization for teaching letters in combination with face-to-face events (such as lectures, seminars, teaching talks, project work) and e-learning as well as self-study and multimedia options for lecturers etc. The attendance days use activating teaching and learning forms, e.g. B. Group work and presentation, discussion, seminar lecture, case studies if necessary. Teaching language: German and English.
5	**Participation requirements** no special
6	**Examination forms** Term paper
7	**Requirements for the award of credit points** **P**assed seminar work and possibly successful presentation
8	**Use of the module (in other courses)** **-**
9	**Significance of the grade for the final grade** Weighted with 5/90 ECTS points in accordance with the examination regulations
10	**Module representative** Prof. Dr. Reuter **Lecturers** Prof. Dr. Thurnes, Dominik Zettler, MBA, Reema Singhal M.A.

11	**References:** Rothlauf J.: A Global View on Intercultural Management: Challenges in a Globalized World (eBook), de Gruyter Oldenburg 2015 Opresink M.: The Hidden Rules of successful negotiation and communication (eBook), Springer 2014 Thurnes C.; Methodological Competencies: creativity and problem solving techniques 2020 (ELearning Course), 2020

Marketing-Politics und Strategy					
Module 3	**Workload** 125 h (5 ECTS* 25 h)	**Credits** 5 ECTS	**Study Semester** 1. Sem.		**Duration** 1 Semester
1	**Courses** M 3.1 Fundamentals and strategy I: Market-oriented management of marketing and sales M 3.2 Fundamentals and strategy II: strategic analysis and strategy development		**Contact time lessons** 10 = 7,5 hours	**Self study** 117,5 h	
2	**Learning outcomes / competencies** **M 3.1 Basics and strategy I: Market-oriented management of marketing and sales** After completing this sub-module, students can - recognize the consequences of the market orientation for companies, - explain key terms of marketing, - Describe the most important functional areas of marketing and draw the first practical consequences for your own work from marketing. - describe and apply basic concepts for market orientation, - Align marketing decisions on the different markets, - assess the different demand situations, - explain the marketing process. **M 3.2 Fundamentals and strategy II: strategic analysis and strategy development** After completing this sub-module, students can - assess the influences of the market and business environment with the great influence of digitization, - explain the importance, development and levels of strategic management, - explain and apply selected strategic analysis tools such as the Boston Consulting Group method, the Ansoff product-market expansion grid and the SWOT analysis, - present different types of strategy and strategic approaches and implement them in a plan.				
3	**Content** **M 3.1 Basics and strategy I: Market-oriented management of marketing and sales** Shortening product life cycles, changing customer behavior and informational overloading are just some of the developments that companies are facing today. In addition, the topics of digitization and sustainability will become increasingly important for the future of companies and our society in the coming decades. If companies actively implement digitization, they must therefore take economic, ecological and social aspects into account in terms of sustainability. That is why it is so important to understand marketing in these times of rapid change as a concept of market-oriented corporate management that covers all areas of economic activities in the				

	company. Basically, the term marketing can be assigned two meanings: on the one hand, it means a certain way of thinking in the company, and on the other hand, it should delimit a business area of responsibility. Regardless of this, marketing is one of the management concepts without which successful corporate management is not possible. It is necessary that all employees accept the marketing concept in the company and implement it in their daily work. Marketing means managing companies based on an understanding of the market. Companies are more able to assert themselves against the competition, the more they manage to align themselves with the market requirements. Marketing is a management function that always lives from the interplay of strategic planning on the one hand and operational implementation on the other. **M 3.2 Fundamentals and strategy II: strategic analysis and strategy development** Strategic thinking affects those decisions that affect the future overall situation of the company and thus aims at the overall target system of the company, not individual goals. Strategic decisions therefore have a particularly strong impact on the company. Strategic decisions should always include possible counter reactions from the market. The following ways of thinking are of particular importance for strategic questions: First, it can be checked for which products a common marketing strategy makes sense and which products can be seen separately. It must e.g. For example, it can be examined which products go to the same customers, which products have the same competitors on the market and are substitutable. This gives you business areas that require your own assessment and strategy. It is also about recognizing your own strengths and weaknesses in comparison to competitors and over time. Strategic thinking is thus characterized by differentiated, relative and dynamic thinking**.**
4	**Teaching forms/ languages** Lessons as well as recommended attendance days and multimedia options for lecturers. The attendance days use activating teaching and learning forms, e.g. B. Group work, exercises, presentation and discussion of group work, seminar presentation, case studies, case studies. Language of instruction: German and English
5	**Participation requirements** **n**o special
6	**Exam** Term paper
7	**Requirements for the award of credit points** Passed seminar work and successful presentation
8	**Use of the module (in other courses)** **-**
9	**Significance of the grade for the final grade** Weighted with 5/90 ECTS points in accordance with the examination regulations
10	**Module representative** Prof. Dr. Reuter **Lecturers** Marco Wehler, MSc.
11	**References and recommended literature:**

	Chaffey D.: Digital Marketing 2019 Kotler P. and Keller K.: Marketing Management, Global Edition (eBook), Pearson Education 2018 Kotler P. and Kartajaya H.: Marketing 5.0 Technology for Humanity, Verlag Pearson Education 2021 Kotler P. /Armstrong G.: Principles of Marketing, 2017 Vargo St. L.;Lusch R. F.: The SAGE handbook of service-dominant logic (eBook), 2019 White D.: The Smart Marketing Book: The Definitive Guide to Effective Marketing Stragies (concise Advice), 2020 Wiley J. & Sons: Marketing 4.0: moving from traditional to digital, Hoboken, New Jersey: John Wiley & Sons, Inc.,2017

Performance and Financial Management

Module 4	**Workload** 250 h (10 ECTS * 25 h)	**Credits** 10 ECTS	**Semester of study** 2. Sem.		**Duration** 1 Semester
1	**Courses** Management accounting and financial reporting: cost and profit management Financial management and controlling		**Contact time** 22 Lesson units or 16,5 h	**Self study time** 233,5 h	

2 Learning outcomes / Competences

This module teaches important qualification approaches for management decisions with responsibility for the central business profit (accounting) and financial goals (finance) of a company. Students acquire an integrated set of methods for evaluating commercial decision-making alternatives. They prepare themselves for the subsequent takeover of generalist management positions with commercial responsibility. The module offers opportunities for international, intercultural and ethical reflections or excursions. This is important for the typical orientation of the course towards the takeover of generalist management functions.

Module 4 also deals with controlling (controllership), which is characterized, among other things, by its understanding as a planning and control-oriented form of short-, medium- and long-term corporate management. In addition to professional competence, qualification goals such as scientific competence and methodological competence are also included. Social competences (e.g. ability to work in a team) are promoted by the design of the attendance phases.

In terms of content, after the controlling basics, which also include the indispensable basic theoretical knowledge, the controlling concepts at the strategic and operational level of corporate management are dealt with.

General learning objectives for the module are

- expansion of the factual and professional field qualification in the field of performance and financial management;
- integrative knowledge of the two practically relevant branches of accounting (financial and management accounting);
- applicability of important models from the field of finance and accounting for commercial decisions by executives;
- overall understanding of the medium term-operational planning system of international companies as well as the controlling function required for this.

3 Contents

The operational economic goals that every manager with profit responsibility should know relate to accounting, which comprises external (annual financial statements, financial accounting) and internal (cost and revenue accounting, management accounting) accounting, as well as financial management (finance).

	Accounting is subdivided into its internal and external parts and placed in its interaction with investment and financial management. Future-oriented planning and controlling methods (including budgeting) complement the content. Important instruments of planning, controlling, coordination and success-oriented information systems (e.g. finance and accounting) are also part of this module. The module consists of two sub-modules: Accounting: Management Accounting and Financial Reporting (cost and profit management) Actual and planned cost accounting at full and variable costs; optimal management decisions with the help of contribution margin accounting. Accounting principles of the annual financial statements: balance sheet, income statement, notes and management report, analysing and interpreting financial statement; financial ratios Financial management and Controlling Financial management: capital requirements, profitability analysis and financing alternatives; investment analysis, managing working capital Controlling: controlling and corporate planning basics, functional controlling, e.g. marketing controlling, controlling instruments (e.g. BSC).
4	**Teaching forms/languages** Documents, presentations as well as recommended attendance days and the possibilities of a multimedia consultation hour with the lecturers etc. The attendance days use especially activating forms of teaching and learning, e.g. group work and presentation, discussion, seminar lecture, if necessary case studies. Teaching language: English and German
5	**Participation Requirements** None special
6	**Exam** Written exam (equivalent partial exams according to courses)
7	**Requirements for the award of credit points** Passed exam
8	**Use of the module** (in other study programs) Applicable in all MBA distance learning programs
9	**Significance of the grade for the final grade** According to examination regulations weighted with 10 / 90 ECTS points
10	**Module representative** Prof. Dr. Walter Ruda Prof. Dr. Thomas A. Martin **Lecturers** Prof. Dr. Ruben Ascua, StB Dipl.-Kfm. Andrea Martin, Prof. Dr. Thomas A. Martin, Prof. Dr. Walter Ruda
11	**References** Literature and source notes:

	Accounting: Management Accounting and Financial Reporting **Primary literature** Atrill, Peter / Eddie McLaney: Accounting and finance for non-specialists, 11. Auflage Harlow/UK 2019, Pearson Alexander, David / Christopher Nobes: Financial Accounting 7th Edition : An International Introduction Edition 7, Harlow/UK 2020, Pearson **Complementary:** Atrill, Peter / Eddie McLaney: Financial Accounting for Decision Makers 9th edition, 2019, Pearson, Elliott, Barry / Jamie Elliott: Financial Accounting and Reporting Edition 19, Umfang 925 Seiten, Pearson 2019 Harrison, Walter T., Charles T. Horngren, C. William Thomas et al.: Financial Accounting, Global Edition, 11th ed., Perason 2018 Horngren Charles T., Gary L. Sundem, William O. Stratton et al.: Introduction to Management Accounting, Global Edition, Pearson 2016 Horváth & Partners: The Controlling Concept: Cornerstone of Performance Management (English Edition) 1. Auflage, Vahlen, München 2019. **Financial management and controlling** Arnold, Glen: Essentials of Corporate Financial Management, 2nd Edition, Pearson 2013. Atrill, Peter/McLaney, Eddie: Accounting and Finance for Non-Specialists, Pearson, 2019. Foerster, Stephen: Financial Management: Concepts and Applications, Global Edition, Pearson 2015. Horváth & Partners: The Controlling Concept Cornerstone of Performance Management A Practical Guide to Effective Management Control, Vahlen, 2009. Leotta, Antonio (Editor): Management Controlling and Governance of Family Businesses Theoretical Insights and Empirical Evidence, Springer 2020. Schäffer, Utz (Editor): Behavioral Controlling Anniversary Volume in Honor of Jürgen Weber, Springer Gabler, 2019. Tomczak, Torsten/Reinecke, Sven/Kuss, Alfred: Strategic Marketing Market-Oriented Corporate and Business Unit Planning, Springer Gabler, 2018. Weber, Jürgen/Schäffer, Utz: Introduction to Controlling, Schäffer-Poeschel, 2013.

<table>
<tr><th colspan="6">Marketing: Market Research and Customer Management</th></tr>
<tr><td colspan="2">Module 5</td><td>Workload
125 h
(5 ECTS *
25 h)</td><td>Credits
5 ECTS</td><td>Semester of study
2. Sem.</td><td>Duration
1 Semester</td></tr>
<tr><td>1</td><td colspan="2">Courses
<u>M 5.1 Information management for marketing</u>
<u>M 5.2 Market psychology</u>
<u>M 5.3 Topic of the Year</u>
<u>M 5.4 Marketing case study seminar</u></td><td>Contact time
10
Lesson units
or
7,5 h</td><td>Self study time
117,5 h</td><td></td></tr>
<tr><td>2</td><td colspan="5">Learning outcomes / Competences

<u>M 5.1 Information management for marketing</u>
After completing this submodule, students will be able to
- explain the basics of market research,
- describe the possible applications, forms, procedures, processes, developments and changes in market research,
- explain the possible uses of information technology and digitalization,
- assess the information potential of customers and
- explain the use of the Net Promoter Score (NPS) to measure customer satisfaction.

<u>M 5.2 Market psychology</u>

After completing this submodule, students will be able to
- classify market psychology as a science,
- explain consumer behavior,
- describe the effect of advertising,
- explain the basic categories of needs according to Maslow and possibilities of addressing them through marketing instruments.

<u>M 5.3 Topic of the Year</u>
After completing this submodule, students will be able to
- familiarize themselves quickly and in a well-founded manner with current topics from a wide variety of economic fields and
- discuss their advantages and disadvantages and, after weighing up the alternatives, come to a well-founded decision, thus improving their own decision-making behaviour.

<u>M 5.4 Marketing case study seminar</u>

After completing this submodule, students will be able to
- bring themselves up to date with modern marketing knowledge,
- familiarize themselves comprehensively and quickly with complex marketing material,
- analytically prepare a marketing-specific problem that addresses strategic, tactical as well as operational decision-making levels,</td></tr>
</table>

	- present examples of the implementation of marketing activities on the basis of pre-structured real-life cases and develop a solution proposal that is strictly application-oriented.
3	**Contents** M 5.1 Information management for marketing In this sub-module, students learn how to correctly assess the results of market research. They will learn how to assess secondary material, how to cooperate with a market research institute and how to interpret existing data (Big Data). The limits of market research will also be pointed out. Ultimately, market research cannot predict the success of a marketing measure: the better errors are identified and can be avoided in advance, the greater the probability of success for a late marketing concept. Market research is understood here as the basis and control instrument for many marketing decisions. The methods and important application areas of market research are treated and critically reflected. The explanations of the process of a market research study will guarantee the practical reference. In addition, the knowledge about methods and evaluation of data in market research will be shown. It should also become clear that perfect information is never possible and the question always arises which and how much information the company can "afford" and which it probably no longer need. In this context, it will also be explained which information market research can provide for which functional areas in the company. In addition, the use of social media channels to obtain customer data is discussed. M 5.2 Market psychology In this sub-module, the fundamentals of psychological knowledge are presented insofar as they are relevant for employees in marketing/sales. For market psychology as a so-called "applied science", this means that research results from theory-oriented basic research are used for specific problem areas. Different time horizons apply there than, for example, in marketing theory. Studies on communication research that are still relevant today are used. In addition, the well-known cognitive social psychological theories are explained, which explain how people deal with contradictory information (theory of cognitive dissonance), how they explain the behaviour of other people (attribution theory) and how information is processed. The basics of emotion and motivation psychology, the currently established theories of perception as well as cognitive and social learning theories are also covered. Furthermore, it is shown how people deal with information in general and which consequences can be derived from this for marketing. In this context, it becomes clear how market psychological findings can be incorporated into concrete marketing measures. It also shows how people behave in groups and how and by what means they can ultimately be influenced. M 5.3 Topic of the Year Within the framework of this sub-module, current and changing topics, industrial and country focal points such as corporate governance, compliance management, acquisitions from China, internationalization in China and India, BRIC, future of the automotive industry, Web 2.0, digitalization, sustainability, are covered. M 5.4 Marketing case study seminar While traditional forms of teaching mainly serve to convey specialist knowledge, active teaching methods such as case studies simulate possible tasks in management positions. In a case study, a decision-making situation from business practice is presented with specific information that

	characterizes the decision-making situation. Within the framework of the case study, the students have to solve a presented problem and justify the solution. The processing of a case study allows both the complete processing of the entire marketing subject matter as well as the selective in-depth processing of only individual topics. In addition to the transfer of knowledge, which otherwise takes priority, the focus is on knowledge application training in the sense of a transfer of know-how.
4	**Teaching forms/languages** Documents, presentations as well as recommended attendance days and the possibilities of a multimedia consultation hour with the lecturers etc. The attendance days use especially activating forms of teaching and learning, e.g. group work and presentation, discussion, seminar lecture, if necessary case studies. Teaching language: German and English
5	**Participation Requirements** None special
6	**Exam** Seminar paper and presentation
7	**Requirements for the award of credit points** Passed seminar paper as well as successful presentation
8	**Use of the module** (in other study programs) -
9	**Significance of the grade for the final grade** According to examination regulations weighted with 5 / 90 ECTS points
10	**Module representative** Prof. Dr. Walter Ruda **Lecturers:** Prof. Dr. Walter Ruda
11	**References** Literature and source notes:

<table>
<tr><th colspan="6">Management: Economics & Quantitative Analysis</th></tr>
<tr><td colspan="2">Module 6</td><td>Workload
125 h
(5 ECTS* 25 h)</td><td>Credits
5 ECTS</td><td colspan="2">Study-semester
2. Sem.</td><td>Duration
1 Semester</td></tr>
<tr><td>1</td><td colspan="2">Courses
M 6.1 Economics: Makroökonomie
M 6.2 Quantitative Analysen: Statistik</td><td>contact time in lessons
10 = 7,5 hours</td><td>Self-study
117,5 hours</td><td></td></tr>
<tr><td>2</td><td colspan="5">Learning outcomes / competencies
M 6.1 Economics: Macroeconomics
After completing this sub-module, students can
- assess the basics of economic policy actions and make well-founded arguments in the context or with the help of abstract economic models;
- explain the linkages between key macroeconomic variable such as inflation, unemployment, economic growth and the current account (balance of payments);
- analyze current issues on the national and international economic policy agenda.

M 6.2 Quantitative analysis: Statistics
After completing this sub-module, students can
- apply basic methods of empirical market research;
- collect data material through surveys;
- prepare data graphically and numerically (central tendency, variation);
- analyze and interpret data meaningfully (regression analysis);
- use sample data as a basis for drawing conclusions about certain phenomena in the population (hypothesis testing).</td></tr>
<tr><td></td><td colspan="5">Content
M 6.1 Economics: Macroeconomics
This sub-module is divided into the basics of economic policy actions – fiscal and monetary policy. Based on the theoretical foundation – aggregate supply and demand model – we analyze past and current economic growth as well as various economic policy issues focused on a German and European perspective.

On the theoretical side, we start with addressing the goods market (consumption, investment, government, exports & imports) to derive the IS curve. We then take a look at the financial market and monetary policy (money demand and supply) to derive the LM curve. Combined as our basic work-horse, we apply different policy measures to the IS-LM model to draw first conclusions and recommendations.

We extend our analysis by introducing the labor market in its classical and keynesian approach; the latter applies a minimum wage. Addressing the labor market and introducing flexible prices, we construct a new aggregate supply and demand model (AS-AD model). Now, we can deal with labor market as well as with fiscal and monetary policy actions at the same time – all of</td></tr>
</table>

	which might lead to inflation or deflation. Our final focus is on the determinants of long-run economic growth as well as on short-term business cycle fluctuations. **S 6.2 Quantitative Analysis: Statistics** This module includes the basics of empirical market research (e.g. the process and design of a general statistical analysis). We take a look at various survey methods to derive descriptive statistics and data for hypothesis testing. We focus on representative surveys and concentrate on how to formulate questionnaires and develop multi-item scales. Also, panel surveys and experimental designs are presented. In descriptive statistics, students are introduced to one- as well as two-dimensional frequency distributions and their parameters. Besides graphical presentations of data, we include parameters of central tendency and of dispersion as well as correlations between two variables. In addition, we introduce regression model to derive the determinants of a variable of interest (e.g. monthly sales volume). Regression analysis is modelled in its single as well as multiple version. Inferential statistics deals with data based on samples. We present different (sampling) distributions, introduce estimation methods (confidence intervals for the mean as well as for ratios, determination of required sample size) as well as hypothesis testing for parameters and the independence between two variables. The task of this seminar includes an application of a statistical software tool (Excel) on different examples from the areas of economics, marketing or other study-related areas.
4	**Forms of teaching / teaching languages** During the seminar we use activating teaching and learning forms, e.g. discussions, team work and various exercises. Mode of teaching (language): German and English.
5	**Participation requirements** None – though, keeping up-to-date with current economic issues is helpful as well as looking into the basics of statistics will enhance your understanding.
6	**Examination forms** Portfolio review: seminar paper with a maximum of 10 pages (Quantitative Analysis) and Oral or written exam (Economics).
7	**Requirements for the award of credit points** Seminar paper (50%) and written exam / oral examination (50%)
8	**Use of the module (in other courses)** **-**
9	**Significance of the grade for the final grade** Weighted with 5/90 ECTS points in accordance with the official examination regulations.
10	**Module representative & Lecturer** Professor Dr. Marc Piazolo
11	**References:**

	Economics: **Krugman, P.; Wells, R.** Macroeconomics, 5th edition macmillan education 2018. Statistics: **Barrow, M.** Statistics for Economics, Accounting and Business Studies, 7th edition, Pearson 2017.

International Master-Thesis-Seminar (Out of Campus)

Module	Workload	Credits	Study		Durationr
M13	100 h (4 ECTS*25 h)	4 ECTS	**Semester** 4. Sem.		1 Semester

1	**Courses** **M 13.1 Business and Corporate Ethics** **M 13.2 International Management**	**Contact time** 32 Lesson units or . 24 h	**Self Study** 76 h	

2 **Learning outcomes / Competences**

M 13.1 Business and corporate ethics

After studying this submodule, students will be able to

- critically deal with questions of business ethics,
- evaluate the fundamentals and basic concerns of value management in companies,
- deal with the special responsibility of companies with regard to change, innovation and, last but not least, for the environment,
- critically question the "corporate policy of sustainability" of companies.

M 13.2 International Management

After studying this submodule, students will be able to

- explain the cultural, political and social challenges of managing a company in an intercultural context,
- interpret and contextualise various contributions on current topics at an international academic conference,
- make their own contributions at an international scientific conference.

3 **Contents**

M 13.1 Business and Corporate Ethics

1. basics of ethics
2. values as a cultural dimension in a company
3. ethics management:

- Corporate Governance,
- Corporate Social Responsibility and Corporate Citizenship,
- Compliance Management
- Ethics in the context of innovation, globalisation and sustainability.

M 13.2 International Management

1. introduction to the cultural, social and economic characteristics of a selected country
2. participation in an academic conference.

Course director Prof. Dr. Christian M. Thurnes will visit the annual ISPIM-Innovation Conference with the international students (as well as he does since many years with the German program students; the conferences took place e.g. in Oslo, Copenhagen, Wien, Florenz). This conference offers a wide range of scientific and practical insights in todays innovation management. Conference language is English (ISPIM = International Society for Professional Innovation Management). Besides the contents also networking is a valuable aspect of this module.

4	**Teaching forms/teaching languages** Lecture, discussions, case studies, student presentations, scientific lectures Teaching language: English
5	**Participation Requirements** -
6	**Exam** Course Credit (poster, presentation or term paper)
7	**Reqiurements for the award of credit points** Participation in the seminar, preparation of the poster, presentation or term paper
8	**Use of the Module (in other study programs)** -
9	**Significance of the grade for the final grade** According to PO § 10 (1), the grades of coursework are not included in the final grade.
10	**Module representative** Prof. Dr. Christian M. Thurnes **Lecturers:** Prof. Dr. Christian M. Thurnes
11	**References** Proceedings of the annual ISPIM Innovation Conference (online)

Master Thesis incl. Kolloquium					
Module 14	**Workload** 650 h (26 ECTS*25 h)	**Credits** 26 ECTS	**Semester of Studyr** 4. Sem.		**Duration** 1 Semester
1	**Courses** Individual interview(s) as part of the supervision of the Master's thesis		**Contact time** 0 lesson units	**Self Study** 650 h	
2	**Learning outcomes / Competences** Master Thesis After completing this sub-module, students are able to - independently investigate a delimited scientific topic or a practical problem from the field of management using scientific and/or subject-specific practical methods within the specified period, - evaluate and process the findings and interdisciplinary contexts using scientific and/or practical methods, - demonstrate that they have the necessary specialist knowledge to deal with the topic and can classify and critically reflect on this knowledge in the current state of scientific knowledge, - develop independent ideas or innovative approaches to solutions. Colloquium After completing this submodule, the students can - present and defend the topic and results of their Master's thesis in a professional discussion in terms of content and methodology, - present the Master's thesis in a concise and comprehensible form and present the approach, the methods, concepts or models used as well as the most important results. In doing so, it should also be possible to answer in-depth and further questions for clarification				
3	**Contents** **The following steps for the preparation of the Master's thesis are to be presented in an exposé before registration of the thesis:** - Topic identification process in consultation with the supervisor, - Determining the theoretical and practical objectives with a hierarchy of sub-objectives of the Master's thesis, - Knowing the relationship of one's own work to the current state of knowledge (state of art) and the discussion in the literature (literature review), - Draw up a work plan and rough structure of the Master's thesis including a time/measure plan and "milestones", - Explanation of the methodology (technique of answering the research question) and available resources, - Overview of the central relevant specialist literature (at least 10 central sources, not including the course units of the distance learning program) with formally complete citation,				

	- Present, discuss and reflect on the results.

4	**Teaching forms/teaching languages** Scientific thesis, scientific lecture with presentation in the colloquium. Language: German or English.
5	**Participation Requirements** Ability to work and document in a scientific and structured manner. According to the PO, at least 40 ECTS must have been achieved by the time the Master's thesis is registered..
6	**Exam** Master-Thesis und Kolloquium
7	**Requirements for the award of credit points** Passed Master's thesis and passed colloquium
8	**Use of the module** (in other study programs)
9	**Significance of the grade for the final grade** According to examination regulations weighted with 26 / 90 ECTS-points. The thesis is weighted with 18/90 and the colloquium is weighted with 8/90).
10	**Module representative** Respective supervisor
11	**References:** Literatur- und Quellenhinweise: Supervisor´s format requirements

Innovation Management in Companies

Module	Workload	Credits	Semester of study		Duration
M 21	175 h (7 ECTS* 25h)	7 ECTS	3rd sem.		1 semester

1	Courses	Contact time	Self-study	
	21.1 Successfully designing innovation processes 21.2 Intellectual Property Management - Fundamentals of Law and the Handling of Knowledge, Trade Secrets and Intellectual Property 21.3 Value-based innovation management 21.4 Digitization and sustainability as significant innovation characteristics 21.5 Digital disruption in innovation management 21.6 Emergence and development of innovative successful companies - case studies	16 teaching units or 12 h	163 h	

2 **Learning outcomes / Competences**

21.1 Successfully designing innovation processes

After completing this module, students will be able to

- apply the basics already acquired in M 1.3 on concepts and models of innovation management in a situation-oriented manner against the background of in-depth practical and theoretical knowledge;
- explain and develop various structures in innovation processes at a high level of abstraction;
- explain and apply certain methods for different innovation process phases by way of example and assess their use. Methods with specific reference to innovation management as well as general methods used in the innovation process and methodological frameworks (e.g. Scrum, Lean Innovation) are considered;
- describe in depth the open innovation paradigm, business model innovation and the frugal innovation concept with regard to their significance for the design of the innovation process;
- analyze open and closed innovation paradigms and models of innovation management and apply this skill in innovation management to design business models;
- explain methods of business model innovation (e.g. St. Gallen Business Model Navigator, Business Model Canvas, Business Idea Testing, etc.) and apply selected methods and method modules;
- describe digital business models in terms of design opportunities and difficulties;
- explain frugal innovation as an innovation concept with special significance for resource-saving or sustainable innovation management;

	- describe fields of action and methods of innovation portfolio management and evaluate them against the background of their own practice; - evaluate the methods learned with regard to fields of application and effort and classify them in the different process models or phases; - evaluate methods and process models for use in their own professional practice and define their own method sets through selection and combination. <u>21.2 Intellectual Property Management - Fundamentals of Law and the Handling of Knowledge, Trade Secrets and Intellectual</u> Property After completing this module, students will be able to - independently categorize intellectual property according to knowledge, trade secrets and industrial property rights and subsequently derive fields of action from this; - explain and evaluate the need for and functions of intellectual property protection, particularly in the context of business values; - explain the scope and characteristics of industrial property protection; - explain and assess basic characteristics of the different types of industrial property rights; - explain and implement the mandatory formal requirements for obtaining and maintaining industrial property rights; - describe the structure and design options for intellectual property management in companies; - explain and evaluate strategies and methods of intellectual property management; - explain the necessity and potential of linking intellectual property management and innovation management; - combine the knowledge of innovation process structures, typical use of methods with the knowledge of industrial property rights as well as the use of intellectual property management; - perform basic intellectual property research required as part of an innovation and development process; - evaluate strategies and aspects of intellectual property management against the backdrop of a case study; - on the basis of the experience gained in a case study, combine or improve individual methods of intellectual property management with the innovation process in a targeted manner. <u>21.3 Value-based innovation management</u> After completing this module, students will be able to - recognize, describe and explain the relevance of values or ideas of what is desirable for the management of innovation in operational, strategic and normative terms, - describe different terms, levels of investigation and characteristics of values as well as the role of values of different stakeholders for innovation management and explain them on the basis of company case studies,

	- recognize, classify and design the integrative, directive and heuristic function of values for innovation in processes, products, services, business models and cross-organizational networks using appropriate methods, - design and apply methods of values-based innovation in a project-specific manner, in particular ethnographic exploration of the values of customers and other stakeholders, methods of values-based business model development, elaboration and presentation of normative scenarios, and playful exploration, formulation and implementation of new value orientations to renew the culture of innovation in companies. <u>21.4 Digitization and sustainability as significant innovation characteristics</u> After completing this module, students will be able to - understand the importance and the connection between digitization and sustainability; - explain and evaluate the position and impact of digitization and sustainability in a global context; - recognize the challenges of digitization and digital transformation; - describe and delineate sustainability and its components; - assess the impact of digitalization and sustainable development on corporate structures and processes; - assess the significance as well as the future development of innovations in the context of sustainability. <u>21.5 Digital disruption in innovation management</u> After completing this module, students will be able to - identify fundamental aspects and challenges of digitization for innovation management in companies; - outline tools such as maturity models for classifying the degree of digitization in a digital transition; - assess business model innovations against the backdrop of digital disruption; - examine, understand and interpret current example cases from practice and science on digital disruption in innovation management; - evaluate scientific and professional articles on the topic. <u>21.6 Emergence and development of innovative successful companies - case studies</u> After completing this module, students will be able to - describe successful practical cases of national and international innovative companies from different industries, - the ideas, the business models based on them and the emergence of innovative companies, - discuss the personality traits of successful founders and business leaders, - explain the success factors of these companies and outline how these companies have developed, - discuss differences between successful innovative companies from different countries.
3	**Contents**

	The submodules 21.1 and 21.2 are mandatory components of module 21 and are in any case relevant for the examination. The submodules 21.3, 21.4, 21.5 and 21.6 are in-depth offers of specific questions or perspectives of innovation management. In the written exam, questions on two of these four submodules have to be selected and answered by the students. <u>21.1 Successfully designing innovation processes</u> The targeted handling of innovation in the context of innovation management first requires the establishment of a solid understanding of the term. This sub-module therefore builds on the basics from module M1.3 and, against the background of the design of innovation processes in companies, particularly deepens the following aspects: The designation and structuring of innovation processes has emerged as a typical form of implementation of operational innovation management in companies. In practice, however, various innovation process models have developed. While some process models are defined in a very fine-grained and detailed manner, others have a great deal of freedom. However, the same or similar methods can be found in the many different process models. In this course unit, such elementary methodological components of operational innovation management are explained and, in part, practiced and discussed using examples. As a result, students will not only be able to use a "Kano model" or to create a "Business Model Canvas" and to evaluate its results, but will also be able to place this model in the structure of a given or self-designed innovation process - they will recognize the importance of methods such as "Design Thinking" or "Lead User Method" in the innovation process and will be able to place them accordingly. Another example concerns the organization of the implementation of different innovation projects required in innovation management with regard to the critical success factors of time, quality, costs - both classic project management methods and current forms such as "Scrum", "DFSS - Design for Six Sigma" and methodological framework concepts such as "Lean Innovation" or "Lean Start-up" are discussed here as methodological approaches. In this consideration of the design of innovation processes, three aspects are highlighted in particular, which (representative of many others) represent the opening up of society, the particular innovation relevance of business models and ecological challenges in greater detail: - Open innovation and closed innovation: The in-depth critical examination of different approaches and practices as well as the respective valid framework conditions explains different approaches to strategic innovation management. Here, we will now focus in particular on the significance of open innovation with regard to the design of the innovation process and business model innovation. - Business model innovation: Business model innovations play an important role in innovation management. There are various methodological approaches that can be used for business model innovation (e.g., St. Gallen Business Model Navigator, Business Model Canvas, Business Idea Testing, etc.). Digital business models or the increasing digitization in business models is particularly worthy of attention here. - Frugal innovation: Against the backdrop of the growing importance of "green" or sustainable processes and products, frugal innovation offers specific starting points for reducing energy and material consumption targets through innovations that consciously conserve resources. Finally, fields of action and design for strategic innovation management are discussed. Innovation portfolio management in particular is a field of action for implementing strategic innovation management objectives. <u>21.2 Intellectual Property Management - Fundamentals of Law and the Handling of Knowledge, Trade Secrets and Intellectual Property</u> The participants learn to recognize the necessities in business operations from which the protection of intellectual property arises in order to safeguard their own economic interests and

	the respectful treatment of other people's intellectual property. The students learn to independently categorize intellectual property according to knowledge, trade secrets and industrial property rights and subsequently derive fields of action from this. The students will learn in extracts the applicable law for the protection of intellectual property and trade secrets in the Federal Republic of Germany, Europe and the world. The aim is to enable participants to use their knowledge of intellectual property, technical know-how and industrial property rights to independently assess case constructions and to put them in a position to fully describe to an IP attorney or a patent attorney the facts or subject matter to be protected in order to achieve the best possible protection of the company's intellectual property together with the legal representative. Two secondary aspects, such as imparting basic knowledge of knowledge management and assessing technical know-how to be placed under secrecy, as well as taking measures to protect and safeguard the same, will be discussed on the basis of case studies and compared with industrial property rights in a seminar-style exchange. The participants will learn how to introduce and document a respectful handling of third party intellectual property in the company and which free and costly models exist for searching and handling own and third party intellectual property in order to decide for the respective company whether a make-or-buy situation exists and how to deal with such a situation against an increasingly competitive background. The legal situation that has occurred since 2019 regarding the protection of trade secrets is discussed and measures for implementing this are derived. The difference between knowledge and intellectual property management will be elaborated and case studies will be discussed. Practical exercise clarifies which framework conditions must be created for linking intellectual property management and innovation management. The application of individual methods and systematic research leads to a build-up of experience in their use. At the same time, students grasp the importance of synchronizing activities derived from technology- or market-oriented facets of the innovation process with those of intellectual property and knowledge management. The discussion of the results achieved is an important element of reflection on what has been learned and a prerequisite for transfer to one's own contexts. <u>21.3 Value-based innovation management</u> The participants deal with different concepts of values and value creation and learn to classify ideas of what is desirable in different management dimensions (operational, strategic, normative) and different levels (individual, organizational, institutional, societal). Case studies and examples are used to introduce them to historically reconstructed development paths and methodologically useful (integrative, directive, heuristic) functions of values for managing and shaping innovation. Exercises in value-based business model development demonstrate the impact of different value concepts and normative objectives (especially corporate purpose, mission and vision) on the design and interaction of individual business model components and the innovation potential of values for strategic development. Critical reflection and the definition and review of appropriate evaluation criteria in order to assess the impact of different value orientations in advance and to evaluate them empirically in retrospect. Overall, the module is intended to help students gain a new perspective on entrepreneurial action based on their own values and experiences, and to make this perspective useful for their own projects using appropriate methods. <u>21.4 Digitization and sustainability as significant innovation characteristics</u> This sub-module introduces the topic with a collection of about 4 to 6 respectively current articles from conference papers or other publications, each of which addresses current aspects of digitization or sustainability in innovation management. Students are shown how

	innovations, particularly those brought about by digitalization and technological progress, influence the perception and decision-making of society as a whole. For the purpose of assessing whether the influence is positive or negative, sustainability is applied as a standard of assessment. Students learn that an isolated consideration of the economic sphere is not expedient and understand that the three-pillar model as a target system of sustainability represents the basis of the future-oriented society. The goal is to link the economic, ecological and social aspects and, more importantly, to make digitization and innovation sustainable. Central to this is the influence of digitization and sustainability as a unit on the strategic decision-making of companies and other market participants. <u>21.5 Digital disruption in innovation management</u> This sub-module introduces the topic with a few basic features and then opens a collection of about 4 to 6 respectively current articles from conference papers or other publications, each of which addresses current aspects of digital disruption in innovation management. These contributions are renewed annually. A wide variety of online sources are conceivable. In addition, contributions from conferences and events attended as part of the out-of-campus event are particularly interesting. For each article, corresponding reflection questions and reading guides are provided in the learning platform. For example, in 2019, papers might have been available here such as Supporting digital transformation and business model innovation through Internet-of-Things (Annabeth Aagaard), Uncovering research streams in Data Economy using text mining algorithms (Can Akzan), Maturity model-based implementation of scenarios of digitized work (Michael Bansmann), Digital X and Bounded Imagination (Abayomi Baiyere), (sample selection from the program of ISPIM Innovation Conference 2019, Florence), etc. <u>21.6 Emergence and development of innovative successful companies - case studies</u> Participants learn the differences and importance of inventions and types of innovations (e.g. product and process innovations). In addition, they recognize the sources of innovation, the innovation process, and the enabling environment to successfully establish and develop companies. The importance of Silicon Valley, with its large number of venture capital firms, to many successful innovative high-tech companies is also discussed. One of the main objectives is to sensitize students to the fact that it is possible to successfully develop companies with innovative concepts and establish them on international markets, even under often difficult conditions, by using practical examples from various sectors of the economy.
4	**Teaching forms/languages** Blended learning as a learning organization of teaching letters or online courses and materials in combination with face-to-face events (such as lecture, seminar-based teaching, teaching discussion, project work) and e-learning as well as self-study. The contact days (online or in presence) particularly use activating teaching and learning forms, e.g. group work and presentation, discussion, seminar-style lecture and case studies. Teaching language: English
5	**Participation requirements** none special
6	**Type of exam** Written exam
7	**Requirements for the award of credit points** Passed exam
8	**Use of the module (in other study programs)** -

9	**Dignificance of the grade for the final grade** According to examination regulations weighted with 7 / 90 ECTS points
10	**Module representative and lectureres** Module representative: Prof. Dr.-Ing. Christian M. Thurnes M.A. Lecturers: Prof. Dr.-Ing. Christian M. Thurnes; PA(US), Dipl.Ing.(TU) Frank C. Schnittker; Prof. Dr Henning Breuer; Kiril Ivanov; Prof. Dr Michael Jacob; Prof. Dr Walter Ruda
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Patent offices websites and downloads, e.g.:

- www.eop.org
- www.dpma.de/english
- www.uspto.gov

Recent articles from journals and conference proceedings

Human Aspects of a Corporate Strategy and Culture Promoting Innovation

Module	**Workload**	**Credits**	**Semester of study**		**Duration**
M 22	150 h (6 ECTS* 25h)	6 ECTS	3. Sem.		1 semester

1	**Courses**	**Contact time**	**Self-study**	
	22.1 Strategy development and implementation to promote innovation 22.2 Understanding creativity and developing leadership skills that promote innovation 22.3 New work: Designing forms of work that promote innovation	16 teaching units or 12 h	168 h	

2 **Learning outcomes / Competences**

22.1 Strategy development and implementation to promote innovation
Upon completion of this module, students will be able to:

- analyze and interpret changing external demands on organizations (VUCA world) in relation to their change requirements of companies
- present hindering and facilitating factors in the context of the changing framework conditions
- describe various concepts for developing a networked work culture, such as Working Out Loud, success teams, design thinking as a cultural attitude, agile collaboration
- distinguish corporate democratic forms of solution and decision making, such as Theory U, Reinventing Organizations, Holocracy, Sociocracy, Systemic Consensus, beyond budgeting).
- depending on the size of the company, understand which strategic organizational development steps are necessary to prepare existing companies for the change to a company with a new collaboration culture
- explain by means of scenarios how possible change processes can be realized
- develop a storytelling as a motivational offer for the desired process
- link the above points with any existing target agreement programs in the context of corporate target planning

22.2 Understanding creativity and developing leadership skills that promote innovation
After completing this module, students will be able to

- outline which factors promote and impair individual creativity, and
- distinguish between internal and external factors
- assess the benefits of developing a mindful approach to oneself to foster individual creativity and, in the best case, have independently undertaken a self-experiment to integrate meditation and mindful collaboration into their daily lives (Mindfulness In Organizations, Search Inside Yourself (google), MBRS program).
- assess the benefits of self-development programs such as WOL or Success Teams, or the functionality of knowledge management or work organization tools such as social collaboration platforms (Yammer, Trello, Kanban, Slack, etc.).

	• explain what leadership and working together as equals means and know the difficulties that can arise when working together in cross-generational teams • show how leadership tasks change due to a changed role description as a result of agile, co-creative collaboration and derive which challenges this change in the understanding of leadership is or was associated with, e.g. in your organizations • understand the pain of change and the need for learning on the way to a self-organized company (self-organization), both on the part of managers and employees, and have become familiar with starting points for offering those affected a framework for their self-development through a meaningful strategy. <u>22.3 New work: Designing forms of work that promote innovation</u> After completing this module, students will be able to - demonstrate that lifelong learning is a prerequisite for the success of organizations in constant change - describe modern forms of learning "on the job" such as learning maps, micro-learning, Mirco-Master, etc. and compile them in a participation-oriented manner - Distinguish agile collaboration in project implementation (e.g., AgilePM, Scrum) and the associated agile roles, values, principles, techniques, and framesets - Explain terms such as task board, use cases, daily standup meetings, work-in-progress (WIP) limits, burn-down charts, timeboxing, planning poker, business value, definition of done, osmotic communication, earned value, story points, epic, and persona - present the difference between classic (waterfall) and agile project management and preferred areas of application as well as the question of whether and, if so, in which areas only the agile way of working should generally be favored - Get to know possibilities of linking the agile way of working with creativity techniques and the reliable access to individual and team creativity - Distinguish ways of participatory decision making (sociocracy, systemic consensus, etc.) and their possible effects in terms of rapid project implementation. - Formulate requirements for managers in both agile and traditional contexts for face-to-face or virtual collaboration.
3	**Contents** <u>22.1 Strategy development and implementation to promote innovation</u> Companies of all sizes - whether startups, small or medium-sized enterprises, or corporations with subsidiaries and business units - go through similar observable life phases. The transition from the "silo phase" to "networked collaboration" with newly defined decision-making processes (sociocracy, holocracy) is particularly relevant in this day and age. This change alone represents challenging cultural changes for organizations. These are additionally driven into change by external causes such as the digital transformation in a globalized context, the demand for greater sustainability, changing competitive situations, persistent personnel bottlenecks and the changing value perceptions of younger generations. In dealing with these challenges, new self-perceptions, strategies and leadership styles are required to further develop companies into responsive, flexible, agile and effective shapers of the future. In this context, actions should no longer be guided solely by the question of securing the future and maximizing profits, but rather by the search for meaningful answers and solutions for global society in harmony with nature. Innovation management therefore no longer refers only to products, technologies and processes, but also to the overall organization embedded in its environment: a transition to continuous self-renewal with the help of all employee resources in exchange and cooperation with external institutions and market partners is called for. At the same time, new forms of organization must be found internally, which provide answers to the demands of employees for a freer allocation of time (compatibility of work and career, reduction of working hours, work-life balance) and a flexibilization of work through home office, virtual cross-location, interdisciplinary collaboration and new leadership concepts (virtual

	leadership, shared leadership, ambidextrous leadership). 22.2 Understanding creativity and developing leadership skills that promote innovation Hierarchically oriented "top down" management concepts lead to a loss of motivation and a desire to change among employees, especially when dealing with younger generations. Corporate cultures of start-up companies show how young generations imagine self-organized, agile collaboration. Like managers, employees also need extensive support so that they can (re)develop their innovative capacity. Conditioned for years by the top-down silo structure and rule-dominated cultures, they often find it difficult to trust their own impulses, to actively engage in change processes and to give expression to their creative ideas. While it is easier to agree on culture-shaping rules in new companies, both managers and employees of long-established companies need the explicit will and active support to develop this behavior. Learning the new way of behaving requires an inner change of attitude, because one's own expertise alone is no longer sufficient for strategic decisions in the digital context. Instead, a co-creative, agile way of working and an open attitude toward Scrum, Kanban, Lean StartUp and other agile interdisciplinary forms of work at eye level is required, which transfers the previous understanding of leadership into new roles with "only" mentoring and coaching functions. Employees may therefore have to deal with managers who have not yet opened up to the new way of working. Companies also need to become more flexible in their actions and develop a digital mindset so that they can understand and implement the shift to new digital business models and the mechanisms of rapid competitive developments. Culture factors conducive to innovation are therefore required throughout the organization at all levels and in all areas. One of the most fundamental cultural factors is the ability to deal with opposites: the job should be flexible and also secure, people should be reachable and also pay attention to their personal "digital detox" and deceleration so that they remain operational and healthy for a long time, there should be lateral thinking and at the same time goal-oriented thinking. If the employees have internalized that they do not have to dissolve opposites, but that they can select the characteristics contextually in mindful interaction (mindfulness, liberating structures), they can very liberally bring productive, individual forms of cooperation to life, with which they can quickly realize their customer-centered goals. 22.3 New Work: Forms of work that promote innovation Participatively developed innovation-promoting guidelines in combination with innovation-promoting spaces/working materials and increasing degrees of freedom for self-organized intrinsically motivated testing of new ideas in creative spaces, creative labs, experimental workshops paired with effective platform-based knowledge exchange (social collaboration platforms, success teams,) enable cross-site collaboration and sharing of expertise and promote a continuous innovation process across all areas of the organization. For the idea development of new solution approaches, concepts such as Theory U and Design Thinking - both understood here as an attitude rather than a method - as well as agile collaboration offer an organizational framework in which innovations can come to life. Following the participatory brainstorming for new products, processes or business models, the participants have the task of further developing the ideas in an agile manner. The Agile Manifesto serves as a value orientation for collaboration here. Various methods such as Scrum, DSDM, Extreme Programming, etc. have become established for agile collaboration. The agile processes can be combined with customer-centric techniques and tools from design thinking and with creativity techniques and playful tools for prototyping such as Lego® Serious Play®.
4	**Teaching forms/languages** Blended learning with online documents in combination with face-to-face events (online or in presence) such as lecture, seminar-based teaching, teaching discussion, project work) and e-learning as well as self-study and online options of lecturer consultation etc. The contact events use activating forms of teaching and learning, e.g. group work and presentation, discussion, seminar lecture, if necessary case studies. Teaching language: English
5	**Participation requirements** no special
6	**Type of exam**

	Term paper
7	**Requirements for the award of credit points** passed term paper as well as successful presentation, if applicable
8	**Use of the module (in other study programs)** **-**
9	**Significance of the grade for the final grade** According to examination regulations weighted with 6 / 90 ECTS points
10	**Module representative and lecturers** Module representative Prof. Dr.-Ing. Christian M. Thurnes M.A. Lecturers Dipl.-Kult.wiss. Gronauer, Carina Maurer MBA
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Methodologies for Systematic Innovation Management

Module	Workload	Credits	Semester of study		Duration
M 23	175 h (7 ECTS* 25h)	7 ECTS	3rd sem.		1 semester

1	Courses	Contact time	Self-study	
	23.1 Innovation Methodology TRIZ: Innovative Idea Generation and Problem Solving 23.2 Innovation Methodology DESIGN THINKING: Human Centered Innovation 23.3 Innovation preview with patterns, trends and evolutionary methods	16 teaching units or 12 h	163 h	

2 Learning outcomes / Competences

23.1 Innovation Methodology TRIZ: Innovative Idea Generation and Problem Solving

After completing this module, students will be able to

- explain the various applications of the TRIZ methodology and assign specific methods to different tasks in innovation management;
- describe and apply the innovation checklist and other TRIZ methods for situation and problem analysis;
- apply the notation of TRIZ functional analysis and create functional models,
- apply various methods to formulate innovative challenges based on functional models,
- describe, apply, and evaluate the basic approaches to resolving contradictions;
- integrate the in-depth methods into processes of idea generation and problem solving and reflect on the relevance for their own practice.

23.2 Innovation Methodology DESIGN-THINKING: Human Centered Innovation

After completing this module, students will be able to

- name backgrounds, application spectra and principle characteristics of DESIGN THINKING as an innovation methodology,
- explain various current phase concepts,
- compose a human-centered innovation process with alternating divergent and convergent phases by means of method selection and phase design,
- evaluate selected tools, procedures and methods in the DESIGN THINKING process and apply them in a goal-oriented manner,
- accepting tasks with a high degree of novelty, facing them, preparing them for systematic processing and developing suitable procedural steps,
- structure and organize the processing of innovation management problems as teamwork using the procedures learned,
- use the methods learned to develop product and process innovations, human-centered innovative business models, products, services and processes,
- consider and integrate digitization aspects when going through the DESIGN THINKING process,
- evaluate the innovative content of solutions developed using the procedures learned and weigh them up in the team.

	23.3 Innovation preview with patterns, trends and evolutionary methods After completing this module, students will be able to - name and characterize basic approaches to innovation foresight, - explain the procedures for determining evolutionary stages of technical systems using analytical methods, - apply 9-field thinking as a system-oriented preview approach, - explain and apply the concept of ideality as well as the trends of technology evolution and evaluate the results, - describe complex preview methods such as trend-based preview and directed evolution and assess their range of applications, - Assess the necessary framework for conducting systematic-methodological innovative ideation or innovation preview, - assess the effort required to carry out corresponding projects, - apply individual methodological approaches in a project context, - comprehensively process a question from one of the fields of innovative idea generation or innovation preview with the help of a methodical approach and evaluate the structure and process of the processing for use in their own practice.
3	**Contents** In Module 23, students experience the workload required for research and model building as well as solution finding on the basis of practical tasks and thus gain the ability to assess the benefit and effort of corresponding projects in their own professional activities. The application of individual methods leads to a build-up of experience in their use. The discussion of the results achieved is an important element of reflection on what has been learned and a prerequisite for transfer to one's own contexts. In the final term paper, the students intensively deepen at least one of the innovation methodologies dealt with here: The specific topic of the term paper can be chosen by the students in consultation with the lecturer - alternatively, it is also possible to work on predefined topics. 23.1 Innovation Methodology TRIZ: Innovative Idea Generation and Problem Solving The TRIZ methodology (TRIZ = Theory of Inventive Problem Solving) comprises many methods that lead to fast, high-quality solutions for various innovation management tasks. The collection of methods, which originated in Russia, is recognized worldwide and companies such as Samsung, Siemens, Phillips, and others use it to increase their innovation capability. In Germany, in-depth TRIZ knowledge is still rather reserved for a few specialists in the innovation departments of large companies, although the standardization activities of the VDI, which started in 2014, will lead to a stronger broad availability of the methodology in the following decades. In the module, an introduction to TRIZ is given, including an overview of a wide variety of methods and their fields of application. The course unit then focuses on the basic methods for innovative idea generation and problem solving. The students get to know the innovation checklist as an analysis tool and learn modeling methods for the development of innovation-relevant questions or challenges. Appropriate methods for finding solutions to these challenges are introduced and practiced; in the context of the module, the focus is on methods for resolving contradictions. Further solution methods and tools of TRIZ will be discussed in an overview. 23.2 Innovation Methodology DESIGN THINKING: Human Centered Innovation DESIGN THINKING places people as users at the center of the creative process. There are various methodological approaches, which are usually formulated as a phase model with feedback loops. Even if the phase models differ, they all essentially comprise the stages of empathy development, specification of the innovation task, idea generation, prototyping and testing/improvement. Characteristic of DESIGN THINKING, in addition to the very strong centering on the potential user, is in particular the multiple alternation of divergent and convergent thinking. In contrast to many classical or technology-centered methodologies,

	prototyping stands out in addition to empathy development. It is not only used to prototype a final product, but is also used as a tool for empathy development, decision making, etc. The forms of prototyping are diverse - they range from physical prototypes to functional prototypes to storytelling or impro-theater and many more. The number of individual methods that can be applied in DESIGN THINKING processes is huge, which is due in particular to the popularity and familiarity of the methodology and the associated further development in recent years. Typical methods and phase models are presented in this sub-module. This allows the later assignment of newly learned tools to the appropriate places in the process. Methods from other contexts can also be usefully integrated into DESIGN THINKING processes, which has also led to a permanent growth of the methodology. For example, Lego® Serious Play® is now widely used in various process phases - be it for empathy development, idea generation or prototyping. The application spectrum of DESIGN THINKING is very broad and fits into many of the fields of innovation addressed in the course of study: Business Model Innovation, service innovation, digitally influenced products and services, but also classic product innovation. DESIGN THINKING is considered and practiced as a methodology in this module. However, it becomes apparent that attitude and cultural aspects can also be derived from this methodology, which can lead to a "design thinking" culture. This aspect is examined in more detail in M 22. <u>23.3 Innovation preview with patterns, trends and evolutionary methods</u> Creating a preview of upcoming events, needs, trends or opportunities is an essential part of integrated innovation management. Numerous methods can be used in this field. Methods of a more general nature can be used, such as mathematical extrapolation. More specific to innovation previewing are methods such as the scenario technique or various forms of technology roadmaps. Innovation-relevant preview methodology considers, for example, the development of needs in the context of societal or market trends. In this module, various approaches to the use of trends are discussed. Using the example of a comparatively simple method - the 9-field thinking - the combination of different influences from society, market and technology into a system-oriented preview is practiced. Superordinate principles such as the concept of ideality and the trends of technological evolution also enable students to assess the probable further development of technologies without having to have in-depth technical knowledge. They recognize in the combination of a wide variety of elements mentioned above (such as in the methodology of directed evolution) the possibility of creating methodologically suitable preview tools themselves through selection, combination and adaptation.
4	**Teaching forms/languages** Blended learning with online documents in combination with face-to-face events (online or in presence) such as lecture, seminar-based teaching, teaching discussion, project work) and e-learning as well as self-study and online options of lecturer consultation etc. The contact events use activating forms of teaching and learning, e.g. group work and presentation, discussion, seminar lecture, if necessary case studies. Teaching language: English
5	**Participation requirements** None special
6	**Type of examination** Term paper
7	**Requirements for the award of credit points** passed seminar paper as well as successful presentation, if applicable
8	**Use of the module (in other study programs)** **-**
9	**Significance of the grade for the final grade** According to examination regulations weighted with 7 / 90 ECTS points
10	**Module representative and lecturer** <u>Module representative:</u> Prof. Dr.-Ing. Christian M. Thurnes M.A. <u>Lecturers:</u> Prof. Dr.-Ing. Christian M. Thurnes, Dr. Robert Adunka
11	**References**

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