Module Descriptions

Master of Digital Business
and Innovation Management

Status - 20 April 2020

Contact:

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1	1.1 Module name (German / English)		1.2 Short name (optional)		1.3 Module-Code (HIS-POS)
	Onboarding: Leadership, Collaboration, Communication, and Basics of Data Literacy		ONB		

2	2.1 Frequency of Offer:	2.2 Duration:
	Offer in ☐ each SoSe, ☒ each WiSe,	☒ 1 Semester ☐ 2 Semester

3	3.1 Offer for the following study programmes	3.2 Mandatory, Elective	3.3 Recommended semester
	Master Digital Business and Innovation Management	Man	1st Semester

4 Workload

				Workload total	
	Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons	4 SWS	60		
	Amounts	Amounts contact time	Amounts contact time in hours 60	**180**	**6**
self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Preparatory, self-study, follow-up work		120		
	Amounts		Amounts self-study in hour 120		

5 Learning Outcomes / Competencies

Students will gain **leadership, collaboration and communication** competencies:

- Recognize the roles and responsibilities of leaders and team members to accomplish tasks in creative and digital environments. Recognize the roles and responsibilities of leaders and team members for facilitating creative, ethical teamwork in a digital context.
- Employ digital communication tools to support teamwork.
- Create a shared mission to drive digitalization and innovation in ethical and sustainable ways; develop a team contract to support this mission.
- Recognize awareness of why it is important for organizations to transform business processes and models from analog to digital.

Students will gain **data literacy** competencies:

- Classify different manifestations of data and recognize how to store and access data in databases.
- Recognize the building blocks of data science.
- Develop basic data engineering knowledge to prepare data from various data source for data visualization and data analytics purposes. Students are able to apply this knowledge using state-of-the-Art data preparation tools.
- Critically assess data visualization by the use of pre-attentive attributes to distinguish good and bad practice.

Contents

Contents related to **leadership, collaboration, communication**:
- Foundations of teamwork, leadership, and ethics in innovative and digital contexts
- Effective communication in an innovative and digital context
- Building a collaborative culture for learning and teamwork

Contents related to **data literacy**:
- Data and databases
- Data engineering and data science
- Data visualization

6	**Participation Requirement**

7	**7.1 Requirements for the award of credit points**

Passed presentation and paper

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

a. Presentation (30 minutes) – 50 %

b. Paper (3-5 pages) – 50 %

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

5% (6 Credits of 120 Credits)

*Die Prüfungsordnungen der Studiengänge finden Sie in den Amtlichen Bekanntmachungen der FH Münster unter dem folgenden Link
https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.

8	**8.1 Lecture Language**

☐ German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Dr. Michael Dircksen

8.3 Lecturer

a) Prof. Dr. Michael Dircksen
b) Dr. Jutta Rach
c) Sandy Fisher, Ph.D.
d) Prof. Dr. Michael Bücker
e) Prof. Dr. Klaus Schulte
d) Prof. Michael Wasserman, Ph.D.

8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

1	1.1 **Module name (German / English)**		1.2 **Short name (optional)**	1.3 **Module-Code** (HIS-POS)
	Foundations 1: Digitalization and Innovation		FD1	

2	2.1 **Frequency of Offer:**	2.2 **Duration:**
	Offer in ☐ each SoSe, ☒ each WiSe,	☒ 1 Semester ☐ 2 Semester

3	3.1 **Offer for the following study programmes**	3.2 **Man**datory, **Ele**ctive	3.3 **Recommended semester**
	Master Digital Business and Innovation Management	Man	1st Semester

4	**Workload**					
					Workload total	
		Lectures/ Form	**Contact time**	**hours per semester per form of instruction/stated form**	**Workload in h**	**Credits**
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons	6 SWS	90		
		Amounts	Amounts contact time	Amounts contact time in hours 90	210	7
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Preparatory, self-study, follow-up work		120		
		Amounts		Amounts self-study in hour 120		

5	5.1 **Intended learning outcomes** (What should students be able to do after having accomplished the module? Does the module provide the opportunity to acquire soft skills in addition to professional knowledge? For which other modules and prospective tasks in the labour market are the acquired knowledge and skills relevant?)

Students will gain the following competencies in **digital transformation**:
- Explain the basic principles of digital transformation and be able to derive recommendations for digital transformation processes
- Classify, explain, and assess the main elements of digital transformation and derive application areas for a company
- Explain and assess the role of digital platforms for a company and derive recommendations for its application
- Explain and assess the role of technology-driven innovation for a company and derive recommendations for strategy and organization
- Collect and analyze qualitative and quantitative data through direct observation and third-party data sources to develop and design business models for digital platforms
- Collect and analyze qualitative and quantitative data through direct observation and third-party data sources to develop and design business models for technology-driven innovation

Students will gain the following competencies in the **innovation of products, processes, and services**:
- Explain the concept of business models
- Identify and evaluate innovation processes
- Construct recommendations about how to enhance / improve innovation
- Design/re-design innovation processes in multiple contexts (for-profit, non-profit, manufacturing, service, etc.).
- Apply process knowledge to a products and services.

- Compare/contrast innovation approaches from different theoretical and practical perspectives.

Students will gain the following competencies in **law for innovation and digitalization**:
- Can describe legal frameworks and regulation around digital business models
- Compare and contrast various approaches to data privacy and security
- Evaluate environmental impact of various activities related to digitalization and innovation
- Analyze decisions about if, when, and how to pursue and defend intellectual property rights discern among various types of contracts typically used in the digitalization and innovation processes

5.2 Course content

The course includes the following contents related to digital transformation:

- Basics of digital transformation
- Elements of the digital enterprise
- Ecosystems and digital platforms
- Technology-driven innovation

The course includes the following contents related to the **innovation of products, processes, and services**:
- Business models, business model innovation, and various types of business models
- Students will learn how formal and informal innovation happens in different countries, in different types of organizations, and in different types of industries.
- Students will learn theoretical foundations (cognitive psychology, organizational theory, change management, art/design) of how organizations, teams, and individuals can become better at innovation through a variety of mechanisms - incentives, cultural factors, physical workspace factors, digital tools, harnessing team dynamics, etc.
- Students will apply theory using tools to design and re-design innovation processes in a variety of contexts and for products, services, and processes exploring technology-driven, customer-focused, and ecosystem-centered innovation approaches.

The course includes the following contents related to **law for innovation and digitalization**:
- Students will learn regulatory frameworks, case law, and ethical concerns pertaining to digitalization and innovation focusing on Europe, but also including perspectives from North America, South America, and Asia.
- Students learn the main forms of intellectual property rights, their prerequisites, characteristics and limitations, typical infringements and defenses against infringement claims, remedies available to the rights owners and procedures for pursuing such remedies.
- Students will learn main features of the protection of computer software in copyright, patent, trademark and unfair competition law to understand and discuss legal features of software contracts in a legal framework.
- Students will identify trends and understand how legal trends will shape digitalization and innovation in various industries and for various types of organizations.

→ details can be found in course syllabus, recommended study plan etc.

6	**Participation Requirement**

7	**7.1 Requirements for the award of credit points**

Passed presentation, paper and project

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

1. Digital Transformation (1/3)

Individual Paper - 80%

Presentation – 20%

2. Innovation of Products, Processes, and Services (1/3)

Product/ Service / Process Innovation Project - 100%

3. Law for Innovation and Digitalization (1/3)
Examination to be done

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

5.8% (7 Credits of 120 Credits)

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https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.

8

8.1 Lecture Language
☐German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Mike Wasserman, Ph.D.

8.3 Lecturer
a) Prof. Dr. Wolfgang Buchholz
b) Prof. Dr. Carsten Feldmann
c) Prof. Mike Wasserman, Ph.D.
d) Lina Landinez, Ph.D.
e) Law for Innovation and Digitalization: To be named later

8.4 Maximum number of participants
25

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1	1.1 Module name (German / English)		1.2 Short name (optional)		1.3 Module-Code (HIS-POS)
	Integrative Project 1		PROJ1		

2	2.1 Frequency of Offer:	2.2 Duration:
	Offer in ☐ each SoSe, ☒ each WiSe,	☒ 1 Semester ☐ 2 Semester

3	3.1 Offer for the following study programmes	3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management	Man	1st Semester

4 Workload

				Workload total	
	Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons and project / group work	2 SWS	30		
	Amounts	Amounts contact time	Amounts contact time in hours 30	**120**	**4**
self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Preparatory, self-study (team work), follow-up work		90		
	Amounts		Amounts self-study in hour 60		

5 Learning outcomes / Competencies

Students will:

- recognize and illustrate challenges in multiple industry sectors
- apply design thinking methodology to a chosen industry sector
- apply market understanding techniques to identify market opportunities within the sector including but not limited to analyzing customer demographics, customer needs, industry norms and standards, competition and competitive dynamics, supply chains, relevant technologies, current data, and emerging trends
- analyze the identified market opportunities in light of sustainability and digitalization
- synthesize the research to design a prioritized list of market opportunities
- evaluate the work of other student groups

Contents

In part 1 of the Integrative Project, students will explore market opportunities in various industry sectors in order to choose one opportunity at the end of the semester that will serve as the basis for part 2 of the Integrative Project in the following semester. Students will be exposed to external guest speakers from industry who will outline current challenges in their respective industry sector. In addition, students will form teams to explore industry sectors using the Design Thinking methodology. They will discover the essential elements of the industry environment - customer demographics, customer needs, industry norms and standards, competition and competitive dynamics, supply chains, relevant technologies, current data, and emerging trends. Ultimately, students will complete the first semester by identifying and recommending focus (problem / opportunity) areas for forward-looking innovative and/or digital solutions. This focus area may come from the industry presentations, or the Design Thinking project.

6	Participation Requirement

7	7.1 Requirements for the award of credit points
	Passed portfolio/presentation

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

100% Portfolio/presentation (individual portfolio 50%, presentation 50%)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

3.3% (4 CREDITS of 120 CREDITS)

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https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.

8	8.1 Lecture Language
	☐German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Dr. Thorsten Kliewe

8.3 Lecturer:

Prof. Dr. Thorsten Kliewe

and lecturers

8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

1	1.1 **Module name (German / English)**		1.2 **Short name (optional)**	1.3 Module-Code (HIS-POS)
	Applications of Digital Innovation Theory and Tools		SPRINTS1	
2	2.1 Frequency of Offer: Offer in ☐ each SoSe, ☒ each WiSe,		2.2 Duration: ☒ 1 Semester ☐ 2 Semester	
3	3.1 Offer for the following study programmes	3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester	
	Master Digital Business and Innovation Management	Man	1st Semester	

4	Workload					
					Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)		Seminar lessons	8 SWS	120		
		Amounts	Amounts contact time	Amounts contact time in hours 120	**390**	**13**
self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)		Preparatory, self-study (team work), follow-up work		270		
		Amounts		Amounts self-study in hour 270		

5 Learning outcomes / Competencies

Students will gain the following competencies in **Market Research for Digital Innovation**:

- compare and contrast features of both B2C and B2B markets
- analyze market, industry and mega trends
- collect and analyze qualitative and quantitative data through direct observation and third-party data sources to describe trends, boundary conditions, and use cases.
- recognize und specify opportunities for innovation

Students will gain the following competencies in **Design Thinking and Creativity:**

- develop understanding of design thinking from multiple perspectives,
- learn tools to enhance design and support creativity
- apply the steps and tools involved in the design thinking process
- integrate analog and digital tools related to design thinking to a specific business problem
- test and assess innovative ideas through a rapid iteration cycle through prototyping

Students will gain the following competencies in **Sustainability and Innovation:**

- explore the theoretical and applied relationships between sustainability and innovation in terms of products, services, and processes
- apply and evaluate innovations using multiple perspectives and tools
- integrate issues pertaining to digitalization with issues relevant to sustainable design to gain insights into using Industry 4.0 tools in ways that enhance sustainability.

Students will gain the following competencies in **E-Commerce and Logistics:**

- demonstrate familiarity with modern logistics concepts and the technologies used in the Business-to-Business and Business-to-Consumer channels and can differentiate these in terms of their applicability to practical problems.
- assess the influence of different design options and apply problem-solving alternatives to critically reflect on the dimensions of cost, time, quality and sustainability that influence process effectiveness.
- identify multiple instances where logistics serves as an important interface within the value chain.

Contents

Students will learn the following content related to **Market Research for Digital Innovation**:

- Foundations of markets and marketing
- Market identification (B2B and B2C)
- Research methods (i.e. desk research, interviews, survey, experiment)
- Market opportunity identification methods (i.e. Outcome-driven innovation, Value innovation)

Students will learn the following content related to **Design Thinking and Creativity:**

- Theory behind design and creativity: Psychology, art and marketing
- Approaches to design thinking and creativity: IDEO, Google, Stanford, etc.
- Tools for design and tools to enhance individual, team and organizational creativity

Students will learn the following content related to **Sustainability and Innovation:**

- Life cycle analysis
- United Nations Sustainable Development Goals and digital innovation
- Design/manufacturing for sustainability
- Modularity/upgradeability
- Closed loop/Cradle-to-Cradle frameworks

Students will learn the following content related to in **E-Commerce and Logistics:**

- Overview of systems and components in internal and external material flow and storage
- Logistics processes and channels (single, multiple and omnichannel)
- Information systems for logistics
- Basics of transport and network planning

6	**Participation Requirement**

7	**7.1 Requirements for the award of credit points**
	Passed portfolio and paper

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Individual Portfolio (50%) and Paper (50%)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

10.8% (13 CREDITS of 120 CREDITS)

8

8.1 Lecture Language

☒German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Michael Wasserman, Ph.D.

8.3 Lecturer

Prof. Michael Wasserman, Ph.D.

Prof. Dr. Michael Dircksen

Prof. Dr. Franz Vallée

Prof. Dr. Wolfgang Buchholz

Prof. Dr. Lina Landinez

Prof. Dr. Thorsten Kliewe

Dr. Ansgar Buschmann

Colin Schultz, M.Sc.

Dr. Max Bader

Supported by outside experts from corporate partners (for example Mario Martini, Executive Director lab25)

8.4 Maximum number of participants

25

8.5 Supplementary information (optional)

Recommended reading:

FH MÜNSTER
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1	1.1 Module name (German / English)		1.2 Short name (optional)	1.3 Module-Code (HIS-POS)
	Foundations 2: Applied Digitalization		FD2	
2	2.1 Frequency of Offer:		2.2 Duration:	
	Offer in ☒ each SoSe, ☐ each WiSe,		☒ 1 Semester ☐ 2 Semester	

3	3.1 Offer for the following study programmes	3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management	Man	2nd Semester

4	Workload				Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons	4 SWS	60		
				60		
		Amounts	Amounts contact time	Amounts contact time in hours	**150**	**5**
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Preparatory, self-study, follow-up work		90		
		Amounts		Amounts self-study in hour 90		

5 Learning outcomes / Competencies

Students will gain the following competencies in **data analytics**:

- apply advanced analytics analysis tools and visualization tools to digitalization and innovation problems
- build on previous knowledge of ethical decision frameworks to guide application and use of analytics in the context of digital business models and innovation
- demonstrate basic coding skills
- apply coding knowledge to machine language, artificial intelligence, automation, and other related topics
- critique digital trends and technologies that will shape life in the coming decade and fuel innovation across a variety of sectors, including government and non-profits, including social and ethical impact of such tools

Students will gain the following competencies in **programming**:

- visualise problem solutions using graphical modelling languages.
- design and implement simple algorithms using the techniques and principles of object-oriented programming.
- program a small software application in a modern language.
- critically evaluate the quality of a small software application.
- take roles as a member of a team to support solving problems.
- adapt to new, object-oriented programming languages.

Contents

The course includes the following contents in **data analytics:**

1. Applying Data Engineering/ETL
- data transformation
- data scraping with google sheets & google BigQuery
- aggregations, pivots, joins, unions
- Tools (to be determined): Alteryx, TableauPrep, KNIME, RapidMiner, Pentaho, Metabase, Talend, Informatica

2. Applying Data Visualization
- Visual perception of information
- preattentive attributes
- chart types
- dashboard design
- Tools: Tableau & Tableau Server; R/ggplot2

3. Applying Data Science
- Multivariate methods (cluster analysis, factor analysis)
- data mining process
- Prediction models for regression/classification (linear/logistic regression, decision trees)
- Outlook: Machine Learning (RandomForest, GradienBoosting, Deep Learning)
- Tools: R or Python, possibly: R Shiny

The course includes the following contents in **programming:**

1. Introduction to object-oriented programming
- Basic terms
- Schematic structure
- Graphical visualization
- Object-oriented analysis and design

2. Application and exercises of object-oriented programming
- Objects and classes
- Object relations
- Draft samples
- classes and higher data types (lists, stacks, queues, trees, graphs)
- Inheritance and derived classes; Abstract classes and interfaces

6	**Participation Requirement**

7	**7.1 Requirements for the award of credit points**

Passed exam

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Data Analytics: (1/2)

    Exam (60 minutes - 50%) and passed project (50%)

Programming: (1/2)

    Portfolio (100%)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

4,2% (5 Credits of 120 Credits

8	**8.1 Lecture Language**

☐ **German** ☒ **English** ☐ **Another, namely:**

8.2 Module Supervisor:

To be named

8.3 Lecturer

Data Visualization and Analytics:
Prof. Dr. Michael Bücker
Prof. Dr. Klaus Schulte

Programming:
To be named

8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

N. N.

FH MÜNSTER
University of Applied Sciences

1	1.1 **Module name (German / English)**		1.2 **Short name (optional)**	1.3 Module-Code (HIS-POS)
	Integrative Project 2		Proj2	
2	**2.1 Frequency of Offer:**		**2.2 Duration:**	
	Offer in ☒ each SoSe, ☐ each WiSe,		☒ 1 Semester ☐ 2 Semester	
3	3.1 Offer for the following study programmes		3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management		Man	2nd Semester

4	Workload					
					Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Supervision lessons and presentations	2 SWS	30		
		Group work in the project	6 SWS	90		
		Amounts	Amounts contact time	Amounts contact time in hours 120	**360**	**12**
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Self-study, preparation of project task		240		
		Amounts		Amounts self-study in hour 240		

5 Learning outcomes / Competencies

Students will gain the following competencies:

- apply and integrate knowledge and skills learned in program coursework to conduct projects that address practice-oriented problems or opportunities
- analyze data and create, prototype, and validate innovative concepts for digital or physical products/services/processes/business models to address practice-oriented problems and/or opportunities
- develop, communicate, and defend conclusions and recommendations to company/project stakeholders in workshop, presentation, and/or report format
- critically evaluate their own team's ideas and those of other teams.

Contents

This course establishes a project for a partner organization or startup context. The project, typically addressed in teams of 3-5 students, must address a real problem or opportunity with a concrete digital and/or innovative focus. This may involve, for example, analyses and optimization of processes and business models or the introduction of new IT systems for selected processes. In established companies the projects usually require the students to be on-site in the company two days a week. For founding projects, the students share and challenge their ideas and development process with experienced founders/mentors who guide and supervise the process.

For both possibilities – company or founding projects - a coaching session with a supervising professor at the FH takes place weekly. In accompanying lessons, students are introduced to the topics of change management, project management, and stakeholder pitch or workshop moderation as needed.

The project culminates with a final presentation during the last week of the academic year to students, faculty, and invited members of the community.

6	**Participation Requirement**

7 | **7.1 Requirements for the award of credit points**

Passed portfolio/presentation

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Portfolio and presentation (individual portfolio 50%, presentation 50%)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

　　　　10% (12 Credits of 120 Credits)

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https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.

8 | **8.1 Lecture Language**
☐ German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Dr. Michael Dircksen

8.3 Lecturer:

Prof. Dr. Michael Dircksen
Prof. Michael Wasserman, Ph.D.
Prof. Dr. Thorsten Kliewe

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8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

1	1.1 Module name (German / English)		1.2 Short name (optional)	1.3 Module-Code (HIS-POS)
	Integrative Project Related Concepts and Skills		SPRINTS2	

2	2.1 Frequency of Offer:	2.2 Duration:
	Offer in ☒ each SoSe, ☐ each WiSe,	☒ 1 Semester ☐ 2 Semester

3	3.1 Offer for the following study programmes	3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management	Man	2nd Semester

4 Workload

				Workload total	
	Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons	8 SWS	120		
	Amounts	Amounts contact time	Amounts contact time in hours 120	390	13
self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Preparatory, self-study (team work), follow-up work		270		
	Amounts		Amounts self-study in hour 260		

5 Learning outcomes / Competencies

Students will gain competencies on a set of topics that are critical to progress on the Integrative Project. The learning will be divided into four block seminars (sprints):

- Recognize, evaluate, and synthesize various methods and components of digitalization and innovation
- Apply theories and tools to applied project
- Integrate customer-focused and technology-driven concepts to new business models
- Build tools to manage change related to innovation and digitalization in individuals, teams and/or organizations

Contents

Each sprint will start with a clear set of learning goals, learning resources (articles, videos, tutorials, and tools), and then using a hands-on, workshop based, team approach result in specific deliverables that demonstrate individual knowledge of how the knowledge about the topic area is translated into specific tangible outcomes (for example, business models, product or service prototypes, or intellectual property applications). Students will be required to present what they learned in a portfolio concept, which could be physical or digital and a written paper that together must demonstrate mastery of concepts, models, and tools presented in the sprints.

6	**Participation Requirement**

7	**7.1 Requirements for the award of credit points**

Passed portfolio and paper

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Integrative Portfolio (50%) and Paper (50%)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

Semester 10,8% (13 CREDITS of 120 CREDITS)

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https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.

8	**8.1 Lecture Language**

☐ **German** ☒ **English** ☐ **Another, namely:**

8.2 Module Supervisor:

Prof. Michael Wasserman, Ph.D.

8.3 Lecturer

Coordinated, supervised, and assessed by:
Prof. Dr. Michael Dircksen
Prof Michael Wasserman, Ph.D.
Prof. Dr. Thorsten Kliewe

Delivery supported by FH Münster colleagues (inside the MSB and in other Faculties) and outside experts from university and corporate partners

8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

1	1.1 Module name (German / English)		1.2 Short name (optional)	1.3 Module-Code (HIS-POS)
	Experiential Semester		EXP	
2	2.1 Frequency of Offer: Offer in ☒ each SoSe, ☒ each WiSe,		2.2 Duration: ☒ 1 Semester ☐ 2 Semester	
3	3.1 Offer for the following study programmes		3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management		Elective	3rd Semester

4	Workload				Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Format as agreed by supervising professor	0,75 SWS	12		
		Amounts	Amounts contact time	Amounts contact time in hours 12	**900**	**30**
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Format as agreed by supervising professor		888		
		Amounts		Amounts self-study in hour 888		

5 Learning outcomes / Competencies

Students will gain new perspectives on digitalization and/or innovation at another university or faculty, a company or in an incubator by designing their own learning experience with supervision from a faculty member. This learning experience must be designed by the student to complement their academic studies in the Digital Business and Innovation Management master program. This experience should fall into one of three broad categories:

a) academic study either abroad or within Germany,
b) applied experience in a company, non-profit, or government agency, or
c) a guided startup experience in an incubator/accelerator, or other structured program.

Learning outcomes will include:

- Compare how innovation and/or digitalization is defined and applied in the context they work or study in. Specifically, students should identify relevant theories and models and then assess how activities observed or participated in were similar to or different from theories and models

- Document and assess new methods and tools for digitalization and/or innovation

- Observe and assess how colleagues from different backgrounds work together and adapt to change as part of digitalization and/or innovation activities

- Observe and assess how culture (organizational and/or national culture) impact digitalization and/or innovation processes. This can include customer behavior, attitudes to digital privacy and security, collaboration, project management, process orientation, or legal/regulatory issues.

- Students must demonstrate advanced knowledge in a topical area of interest directly relevant to

digitalization and/or innovation. This can be through coursework, participation in an organizational initiative/project, or progress toward a startup (formation or commercialization).

Contents

The Experiential Semester is designed as a way to fulfill the credit requirement for students who enter the program with less than 210 credits. These students will complete an experience (educational, international, and/or practical) that is supervised. either in Germany or abroad.

Faculty supervision includes:

1) 4 hours of pre-experience individual supervision, culminating in the approval of a students experiential semester proposal, which should include specific details about the experience and how the learning objectives (listed above) will be met.

2) 6 hours of supervision during the semester for progress updates, coaching, and checkpoints in terms of final deliverables (a one hour meeting every 2-3 weeks).

3) 2 hours of supervision at the completion of the meeting including a final presentation and post-presentation feedback.

6	**Participation Requirement**
	Two semesters of program completion
7	**7.1 Requirements for the award of credit points**
	Passed Experiential Semester Written Report and Presentation of Findings
	7.2 Examination Form
	(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)
	Experiential Semester Written Report (75%)
	Presentation of Findings (25%)
	7.3 Requirements for admission to the examination
	7.4 Importance of the mark for total mark
	25% (30 ECTS out of 120 ECTS)
	*Die Prüfungsordnungen der Studiengänge finden Sie in den Amtlichen Bekanntmachungen der FH Münster unter dem folgenden Link https://www.fh-muenster.de/hochschule/aktuelles/amtliche_bekanntmachungen/index.php?p=2,7.
	8.1 Lecture Language
	☒ German ☒ English
	8.2 Module Supervisor:
	Prof. Dr. Michael Dircksen
	Prof. Dr. Thorsten Kliewe
	Prof. Michael Wasserman, Ph.D.
	8.3 Lecturer
	8.4 Maximum number of participants
	1
	8.5 Supplementary information (optional)
	Recommended reading:

FH MÜNSTER
University of Applied Sciences

1	1.1 **Module name (German / English)**		1.2 **Short name (optional)**	1.3 Module-Code (HIS-POS)
	Research Seminar		RS	
2	2.1 Frequency of Offer: Offer in ☐ each SoSe, ☒ each WiSe,		2.2 Duration: ☒ 1 Semester ☐ 2 Semester	
3	3.1 Offer for the following study programmes	3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester	
	Master Digital Business and Innovation Management	Man	4th Semester	

4	Workload					
					Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Seminar lessons	4 SWS	60		
		Amounts	Amounts contact time	Amounts contact time in hours	180	6
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Self-study		120		
		Amounts		Amounts self-study in hour		

5 Learning outcomes / Competencies

Graduates can in research and science:

- independently create scientific work
- classify scientific theoretically own and others' research projects and results
- critically evaluate them in terms of quality or benefit
- apply situation adequately central scientific finding methods
- create a research paper.
- explain research strategies, research designs, methods and approaches, and quality criteria in research.

Contents

A) Scientific Work
   - Literature review
   - Preparation of the manuscript
   - Source documentation
   - Selection of the relevant literature
   - Creating an outline of a scientific paper
   - Applicable empirical research design
   - Requirements for the development of a master thesis

B) General science theory
   - Concept and tasks of science theory
   - Statement criteria - Empirical / not empirical
   - Descriptive / explicative / inductive / deductive
   - Deterministic, stochastic and tend

- Evaluative (= normative) and non-judgmental statements
- Business Administration as pure or application-oriented science

C) Theories as systems of statements
- Theorizing
- Hypotheses and inductive hypothesis testing (NHST & effect sizes)
- quantitative analysis / strategy and testing procedures
- qualitative analysis / strategy
- Mixed methods strategy
- Quality criteria in academic research
- Academic writing
- How to avoid common mistakes in academic research

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6   **Participation Requirement**

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7   **7.1 Requirements for the award of credit points**

Successful writing of a research paper

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Research paper

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

1. 5% (6 CREDITS of 120 CREDITS)

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8   **8.1 Lecture Language**
☐ German ☒ English ☐ Another, namely:

8.2 Module Supervisor:

Prof. Dr. Thorsten Kliewe

8.3 Lecturer

Prof. Dr. Thorsten Kliewe

8.4 Maximum number of participants
25

8.5 Supplementary information (optional)

Recommended reading:

Alan Bryman; Social research Methods Creswell, J.W.; Educational research: Planning, conducting, and evaluating quantitative and qualitative research

John W. Creswell; Research Design

Andy Field; Discovering statistics using IBM SPSS Statistics

Bortz / Döring; 'Forschungsmethoden und Evaluationen'

Cumming, G.; Understanding the new statistics: Effect sizes, confidence intervals and meta-analysis

Flick, Uwe; Qualitative Sozialforschung. Eine Einführung. Rowohlt: Reinbek/Hamburg.

Mayring, Philipp; Einführung in die qualitative Sozialforschung, Beltz: Weinheim/Basel.

Myers, Michael; Qualitative Research in Business & Management, Sage: Thousand Oaks.

Przyborski, Aglaja / Wohlrab-Sahr, Monikla (2010): Qualitative Sozialforschung. Ein Arbeitsbuch. Oldenbourg: München.

Hällgren, M.; The construction of research questions in project management. International Journal of Project Management, 30(7): 804-16. ://www.sciencedirect.com/science/article/pii/S0263786312000075 (04.09.13)

Sackett, DL / Wennberg, JE (1997): Choosing the best research design for each question, BMJ, 315: 1636. http://www.bmj.com/content/315/7123/1636 (04.09.13)

Schlosser, R./Koul, R./Costello, J. (2007): Asking well-built questions for evidence-based practice in augmentive and alternative communication. Journal of Communication Disorders, 40(3): 225-38. http://www.sciencedirect.com/science/article/pii/S0021992406000542 (04.09.13)

1	1.1 Module name (German / English)		1.2 Short name (optional)	1.3 Module-Code (HIS-POS)
	Master Thesis		MT	
2	**2.1 Frequency of Offer:**		**2.2 Duration:**	
	Offer in ☒ each SoSe, ☒ each WiSe		☒ 1 Semester ☐ 2 Semester	
3	3.1 Offer for the following study programmes		3.2 **Man**datory, **Ele**ctive	3.3 Recommended semester
	Master Digital Business and Innovation Management		Man	3rd or 4th Semester

4	Workload					
					Workload total	
		Lectures/ Form	Contact time	hours per semester per form of instruction/stated form	Workload in h	Credits
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Personal lecture	0,4 SWS	6		
		Amounts	Amounts contact time	Amounts contact time in hours		
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Self-study		684	**690**	**23**
		Amounts		Amounts self-study in hour 684		

Learning outcomes / Competencies

- Students can develop and process a theoretical or practical research topic in a rigorous scientific way.
- Students can apply theoretical models and acquire specialized and in-depth knowledge on a particular topic related to digitalization or innovation or business administration in general. Students can collect material from the scientific literature, performing and processing bibliographical inquiries, explain, apply, and reflect upon complex theories, terminology, specialities, boundaries, and different schools of thought related to their topic critically and in depth.tudents can apply theoretical models and acquire specialized and in-depth knowledge on a particular topic related to digitalization or innovation or business administration in general. Students can collect material from the scientific literature, performing and processing bibliographical inquiries, explain, apply, and reflect upon complex theories, terminology, specialities, boundaries, and different schools of thought related to their topic critically and in depth.
- Students can review the related literature critically. They can summarize the main findings of other authors in a conclusive way.
- Students can plan and implement stages of work independently in order to solve a problem in a new context or related to a new unfamiliar topic and can demonstrate their ability to work autonomously in an academic context. He or she can outline and critically reflect on research strategies, research designs, methods and approaches.
- Students can collect, prepare, and evaluate data related to their topic, apply qualitative, quantitative or mixed methods to analyse the data. Students critically evaluate the strengths, limitations of their approaches and of their options, evaluating the quality of work.

Contents

Master thesis is a research project resulting in a substantive paper that involves original collection or treatment of data and/or results. The final product of a Master thesis is a paper of publishable quality that contributes to science / the field of research / the practical problem of a partner company, which means that the topic has the potential to deliver a possibly small but at least noticeable progress in the respective area(s) it is sited in.

Operationalizing the thesis problem statement in an individual project must lead to a workload which suits the number of credit points associated to the Master thesis. In a theoretical topic the students identify a research gap to be addressed, in a practical project the student determines and formulates together with the practical partner an area of research. In both cases the students develop research questions. The students analyse and structure an until now not fully examined area of science, they then apply existing scientific methods to answer the research questions (which until now were not subject of this method) or they apply a new combination of methodology / body of knowledge.

Elements of the thesis can include a pilot (case) study, a comprehensive review and analysis of relevant literature, a research study design, the collection and analysis of data, and discussion of results, a synthesis and application of the literature on a topic, and a critical evaluation of empirical studies on the topic.

6	**Participation Requirement**

40 CP from modules in semester 1 and 2

7	**7.1 Requirements for the award of credit points**

Pass evaluation of master thesis by two supervisors and pass evaluation of colloquium

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Master thesis (as regulated by the examination rules); Evaluation of master thesis by two supervisors

7.3 Requirements for admission to the examination

Minimum 40 credits (ECTS) from module examinations and participation in module examinations of the first and second semester.

7.4 Importance of the mark for total mark

2. 17,5% (21 CREDITS of 120 CREDITS)

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8	**8.1 Lecture Language**

☒ **German** ☒ **English** ☐ **Another, namely:**

8.2 Module Supervisor:

Prof. Dr. Michael Dircksen

8.3 Lecturer

Selection by examination office, based on proposal of student

8.4 Maximum number of participants
1

8.5 Supplementary information (optional)

Recommended reading:

1	1.1 **Module name (German / English)**		1.2 **Short name (optional)**	1.3 **Module-Code** (HIS-POS)
	Colloquium		CO	
2	2.1 **Frequency of Offer:**		2.2 **Duration:**	
	Offer in ☒ each SoSe, ☒ each WiSe		☒ 1 Semester ☐ 2 Semester	
3	3.1 **Offer for the following study programmes**	3.2 **Man**datory, **Ele**ctive	3.3 **Recommended semester**	
	Master Digital Business and Innovation Management	Man	3rd or 4th Semester	

4	Workload					
					Workload total	
		Lectures/ Form	**Contact time**	**hours per semester per form of instruction/stated form**	**Workload in h**	**Credits**
	contact time (e.g. lecture, exercise, internship, seminar lessons, project/ group work, case study, business game, credited tutorial) (further lines possible)	Interview / Defense		0,5 h		
		Amounts	Amounts contact time	Amounts contact time in hours	**30**	**1**
	self-study (e.g. tutorial, preparation / follow-up, Exam preparation, preparation of homework, Search)	Self-study		29,5		
		Amounts		Amounts self-study in hour		

5 Learning outcomes / Competencies

In terms of learning outcomes

- students will be able to show competence in identifying relevant information, defining and explaining topics in the discussion. They will be able to demonstrate depth of understanding in their master thesis topic and to give insights in relevant theories.
- students will be able to present their submitted master's thesis in a short speech and to formulate information scientifically. students will be able to follow an academic discussion, infer meanings that are not overt, and defend their scientific point of view.
- students will be able to critically evaluate the strengths, limitations of their approaches and of their options, evaluating the quality of work.

Contents

The colloquium takes part after the Master thesis was handed in. In the Colloquium the student will present their master thesis research project and defend their research approach as well as their solutions.

Students are asked to develop persuasive speech, present information in a compelling, well-structured, and logical sequence, respond respectfully to inquiries, show depth of knowledge of complex subjects, and develop their ability to synthesize, evaluate and reflect on information.

Supervisors will ask critical questions to test students competence with regard to insights into relevant theories, scientific methods and to critically evaluate the work as well as to verify that the student is the author of the thesis.

6	**Participation Requirement**
	Master thesis evaluated as „pass"

7	**7.1 Requirements for the award of credit points**
	Pass evaluation of master thesis by two supervisors and pass evaluation of colloquium

7.2 Examination Form
(z. B. Klausur, mündliche Prüfung, Hausarbeit, Präsentation, Portfolio, Dauer der Prüfung in Min.)

Personal interview of 30 minutes (student and both supervisors)

7.3 Requirements for admission to the examination

7.4 Importance of the mark for total mark

1. 2,5% (3 CREDITS of 120 CREDITS)

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8	**8.1 Lecture Language**
	☒ **German** ☒ **English** ☐ **Another, namely:**

8.2 Module Supervisor:

Prof. Dr. Michael Dircksen

8.3 Lecturer

Master thesis supervisors

8.4 Maximum number of participants
1

8.5 Supplementary information (optional)

Recommended reading: