Master of Digital Transformation Management
– Modules Manual –

Foundation Phase

<table>
<thead>
<tr>
<th>Module name: Managerial Accounting &amp; Controlling (MACC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of module: compulsory, foundation-course module (6 CP)</td>
</tr>
</tbody>
</table>

1. Content:
- Discussion of various costing and calculation concepts relevant to the IT sector
- Application of information within various monitoring tools, including budgeting, break-even analysis, transfer prices
- Identification of relevant information and its efficient use for the purpose of decision-making in the IT sector
- Identification of information that influences decisions in the context of performance measurements and Key Performance indicators as well as its use in the guidance of employees, e.g. within the framework of profit centers or the achievement of corporate social responsibility goals

2. Learning outcomes/skills objectives:
The students learn
- to apply costing methods and estimate the value of information;
- to calculate and evaluate the costs of orders or mass products;
- to use costs information to make operational and strategic decisions;
- to understand areas of responsibility as organizational units for the monitoring of results;
- to choose the correct financial ratios (e.g. ROCE, EVA) either on an isolated basis or in combination with other, non-financial indicators (e.g. balanced scorecard, corporate social responsibility figures);
- to implement performance-related pay for employees in order to stimulate behavior in line with the business's objectives.
Furthermore, within the framework of the exercise the students gain skills in the development of approaches to problem-solving in relation to practice exercises and learn to present this in English.

3. Preconditions to participation:
None

4. Permitted teaching and learning formats:
Lecture and exercise.

5. Course records:
A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

6. Module examination:
The format of the examination on completion of the module is set by the class director at the beginning of the series of classes.

| Examination on completion of the module, consisting of: | Test (90 minutes) or term paper (10-15 pages) or test (45 minutes) and term paper (max. 7 pages). |

7. Module grade:
Where the module examination consists of a test and a term paper, the grade for the module is derived 50% from the test and 50% from the term paper.
Module name: Organizational Behavior (ORBE)
Type of module: compulsory, foundation-course module (6 CP)

1. Content:
The class is made up of multiple parts: employees as the building blocks of economic organizations, behavior within organizations and the importance of motivation. Proceeding from employees as the building blocks of organizations, the individual differences between employees are looked at depending on the work context and work motivation. At the individual level this concerns the question of how managers make optimal decisions when these are fraught with risk and are based on incomplete information. At the group level this is about employee leadership, the successful management of teams and the role of social norms and "peer effects" in the workplace. Finally, at the level of the organization, subjects such as "change" and "culture" are discussed. New challenges arising from the changing environmental conditions (e.g. globalization and diversity, digitalization, virtual collaboration, challenges in terms of corporate social responsibility) are continuously being addressed.

2. Learning outcomes/skills objectives:
The module teaches the fundamentals which combines the most important principles in the area of Organization and HR into a single class. The objective is
• to highlight the key elements of the motivation problem and its solution;
• to impart to participants the most important management concepts and their connection with organizational behavior.
Furthermore, participants should
• develop the ability to apply management concepts in different organizational contexts (particularly in light of globalization and digitalization);
• learn to analyse decision-making problems in companies and work relationships and in so doing to draw on ethical principles;
• learn to structure typical management issues and to develop potential strategies to resolve these issues.
A framework is jointly developed that should assist the students to uncover typical traps and to develop strategies for better decision-making.

3. Preconditions to participation:
None

4. Permitted teaching and learning formats:
Lecture and exercise.

5. Course records:
A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

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7. Module grade:
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**Module name:** Corporate Finance (COFI)  
**Type of module:** compulsory, foundation-course module (6 CP)

1. **Content:**
   This module discusses institutional and methodological aspects required for an understanding of advanced ways of looking at problems in the area of Corporate Finance. The participants are familiarized with the basic concepts for the evaluation of investments and corporate finance, this being done with the inclusion of all ethically-relevant aspects of the teaching content and with a special emphasis on taking into account the application in practice of what has been learnt, in each case according to ethically reasonable options. Students are given a basic understanding of interest, risk, diversification, market equilibrium price and capital structure considerations according to modern financial theory. These are, in particular
   - financial instruments: debt, equity, convertible debt, leasing;
   - financial strategies: leverage, payout policy;
   - NPV (net present value), including the value of tax shields;
   - valuation under uncertainty (WACC, CAPM), real options.

2. **Learning outcomes/skills objectives:**
   The students
   - get an overview of modern financial market theory;
   - are equipped with the most important conceptual tools in the area of finance required for an understanding of corporate finance issues;
   - gain skills in the course of this exercise in the development of approaches to problem-solving for practice exercises;
   - learn to take into account aspects of ethical standards in the application of the teaching content in a way that does them justice.

3. **Preconditions to participation:**
   None

4. **Permitted teaching and learning formats:**
   Lecture and exercise.

5. **Course records:**
   A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

6. **Module examination:**
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   | Examination on completion of the module, consisting of: | Test (90 minutes) or term paper (10-15 pages) or test (45 minutes) and term paper (max. 7 pages). |

7. **Module grade:**
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**Module name:** Strategic Management and Organizational Change (SMOC)

**Type of module:** compulsory, foundation-course module (6 CP)

### 1. Content:
This module introduces concepts for strategic analysis and strategy development. Proceeding from the basic concept of strategy and from the definition and role of corporate strategy, different approaches are adopted to strategic analysis tools that are of central importance in the age of digital management and digital transformation. This involves looking at the following subject areas, among others:
- company objectives and vision
- industry analysis
- analyses of skills and resources
- diversification and vertical integration
- cost leadership
- internal vs. external growth
- roles and tasks of corporate head office
- implementation of corporate strategies
- business models and business model innovations.

### 2. Learning outcomes/skills objectives:
The module creates a shared foundation for all Masters students, which brings together the most important principles in the area of strategy for the digital age. The students should:
- be familiarized with basic methods, models and results of Strategy Research;
- understand the basic principles and tools of Strategic Management incl. business models;
- obtain more in-depth knowledge in the area of strategy formulation and application;
- be equipped to develop strategy for a company and apply it in the context of ethical challenges.

### 3. Preconditions to participation:
None

### 4. Permitted teaching and learning formats:
Lecture and exercise.

### 5. Course records:
A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

### 6. Module examination:
The format of the examination on completion of the module is set by the class director at the beginning of the series of classes.

Examination on completion of the module, consisting of:
- Test (90 minutes) or term paper (10-15 pages) or test (45 minutes) and term paper (max. 7 pages).

### 7. Module grade:
Where the module examination consists of a test and a term paper, the grade for the module is derived 50% from the test and 50% from the term paper.
### Concentration Phase

**Module name:** IT Architectures & Digital Business Models (ITAR)  
**Type of Module:** Compulsory, concentration-phase module (5 CP)

1. **Content:**
   This module tackles the bases of the digital transformation. In the foreground are the concepts of Digitalization, current IT architectures and methods for the development of digital business models. The module is taught with the inclusion of all ethically-relevant aspects of the teaching content and with a special emphasis on reflecting the application in practice of what has been learnt, in each case according to ethically reasonable options. Topic areas examined are, in particular:
   - Key Building Blocks of Digital Transformation in Organizations and Industries
   - Foundations of Digital Platforms and Ecosystems
   - Agile IT Architectures and Application Development
   - Developing Digital Business Models with Design Thinking, Lean Startup and Service Design
   - Cloud Computing, Big Data and Data Analytics and how these transform IT landscapes and business.

2. **Learning outcomes/skills objectives:**
   The students learn:
   - to understand the economic and technical basis of the digital transformation in organizations and industries;
   - to understand the core concepts of digital architectures and platforms;
   - to apply core methods for the development of digital business models;
   - to assess the impact of digital core technologies on business models;
   - to take into account aspects of ethical standards in the application of the teaching content in a way that does them justice.

3. **Preconditions to participation:**
   Participation in the module is conditional upon successful participation in at least three of the four modules from the first semester recommended under the course schedule (Appendix 2).

4. **Permitted teaching and learning formats:**
   Lecture and exercise.

5. **Course records:**
   A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

6. **Module examination:**
   The format of the examination on completion of the module is set by the class director at the beginning of the series of classes.
   - Examination on completion of the module, consisting of: Test (90 minutes) or term paper (10-15 pages) or test (45 minutes) and term paper (max. 7 pages).

7. **Module grade:**
   Where the module examination consists of a test and a term paper, the grade for the module is derived 50% from the test and 50% from the term paper.
Module name: Digital Leadership (DILE)
Type of module: compulsory, concentration-phase module (5 CP)

1. Content:
The "digital transformation" concerns much more than merely the use of new technologies. In an increasingly complex environment of rapid change the style of successful leadership is also changing. The "Digital Leadership" module uses management concepts, scientific knowledge and practical examples to explain why and how leadership has to change in a digital world, and equips students to adapt their own leadership accordingly. Here leadership encompasses leadership of companies, of teams of employees and of individual employees.

Content-wise the following subject areas are looked at, among others:
- the need for leadership to adapt in the digital age
- the features of leadership that is appropriate in the digital age
- challenges and questions of leadership of companies, teams and employees
- approaches and tools of a leadership that is appropriate in the digital age

2. Learning outcomes/skills objectives:
The students
- obtain greater knowledge of the leadership of companies, teams and employees in the context of Digitalization;
- learn what constitutes good leadership (incl. decision-making processes, motivation and communication) and a good leader in the digital age;
- are in a position to critically assess modern leadership tools, select those that are appropriate to the situation and use them productively;
- learn to apply different styles of leadership in different leadership situations

3. Preconditions to participation:
Participation in the module is conditional upon successful participation in at least three of the four modules from the first semester recommended under the course schedule (Appendix 2).

4. Permitted teaching and learning formats:
Lecture and exercise.

5. Course records:
A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

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Examination on completion of the module, consisting of:
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7. Module grade:
Where the module examination consists of a test and a term paper, the grade for the module is derived 50% from the test and 50% from the term paper.
Module name: Digital Marketing (DIMA)
Type of module: compulsory, concentration-phase module (5 CP)

1. Content:

This module uses case studies to tackle the bases of the internet and of Digital marketing. It then goes into greater depth on issues of online advertising, on the way search engines work and their optimization. The module is taught with the inclusion of ethically-relevant aspects of the teaching content. Topic areas examined are, in particular

- technical drivers
- economic drivers
- online advertising
- viral marketing
- affiliate marketing
- search engine marketing and search engine optimization
- social media
- online social networks
- recommendation systems
- digital pricing.

2. Learning outcomes/skills objectives:

The students learn

- to understand the principles of Digital markets and of the internet from the point of view of theory and practice;
- to recognize the interplay of technology and economic drivers and be able to derive management implications from this;
- how to apply the most important marketing tools in the online sector;
- how to classify material strategies for success in the online sector;
- how better to estimate the potential of web-based business ideas and apply productive business ideas.

3. Preconditions to participation:

Participation in the module is conditional upon successful participation in at least three of the four modules from the first semester recommended under the course schedule (Appendix 2).

4. Permitted teaching and learning formats:

Lecture and exercise.

5. Course records:

A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

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7. Module grade:

Where the module examination consists of a test and a term paper, the grade for the module is derived 50% from the test and 50% from the term paper.
**Module name:** Digital Process Management (DIPM)  
**Type of module:** compulsory, concentration-phase module (5 CP)  

### 1. Content:
This module lays the theoretical groundwork for understanding how and why digitalization is able to lead to improvements in process and can serve as an enabler of innovative processes. The main drivers of process improvement and innovation are discussed. The module is taught with the inclusion of ethically-relevant aspects of the teaching content. Topic areas examined are, for example:
- forecasting
- business process modeling and management
- process mining
- process and cycle time analysis
- flow rate management
- cycle inventory and safety inventory
- harm of variety
- service process management
- platform revolution with focus on pull scenarios

### 2. Learning outcomes/skills objectives:
The students learn:
- to recognize the impacts of Digitalization on the fundamental parameters of process performance;
- to understand the drivers of process performance and to apply them when designing processes;
- how process analyses, modeling, creation and implementation work together within the framework of Digitalization;
- how variety can be controlled through digitalization in order to turn challenges into opportunities within the business environment, also taking into account ethical aspects where relevant.

### 3. Preconditions to participation:
Participation in the module is conditional upon successful participation in at least three of the four modules from the first semester recommended under the course schedule (Appendix 2).

### 4. Permitted teaching and learning formats:
Lecture and exercise.

### 5. Course records:
A precondition to admission to the module examination may be the production of ungraded records of achievement (short written drafts or brief presentations or work on practice exercises) and/or the production of evidence of participation in the exercise. Where the module examination is in two parts, no ungraded records of achievement need to be produced.

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### 7. Module grade:
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Specialization Phase

<table>
<thead>
<tr>
<th>Short Name:</th>
<th>Module Type:</th>
<th>5 CP (total) = 150 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSDT (EL1 – EL4)</td>
<td>Optional compulsory module of the specialization phase (Elective)</td>
<td></td>
</tr>
<tr>
<td>Module Name:</td>
<td>5 CP (total) = 150 h</td>
<td></td>
</tr>
<tr>
<td>Digital Success Stories &amp; Disruptive Technologies</td>
<td>Contact studies</td>
<td>Self studies</td>
</tr>
<tr>
<td></td>
<td>24 h</td>
<td>126 h</td>
</tr>
</tbody>
</table>

1. Content

In this course, under the intensive use of Case Studies, successful digitized business models will be analyzed. Along with this analysis there is the chance to take use of one’s own company-cases and work with them in groups. While taking into account existing business models, possibilities and challenges of disruptive technologies will be analyzed, while there will also be a critical investigation of the new business models sustainability. In terms of content, following examples of topics and their relation to business models will be addressed:

- Patterns of the digital platform economy
- Digital Business Model-Archetypes (Technology-enabled, Transaction-oriented, Customer Experience, Solution-oriented and Open Digital)
- Introduction to the d.quarks model (Skills to realize new, digital business models and transformations within companies)
- Impact on the four strategic dimensions: organization, people & skills, processes and technology
- Principles and best practices of corporate transformations

2. Learning results / Competency goals

The students will learn to:

- Independently analyze digital business models and identify their potential for success
- Assess the sustainability of digitized business models
- Assess the challenges and possibilities of disruptive technologies on digital business models
- Understand the challenges of introducing agile processes, new role models and different organizational patterns
- Get to know modern techniques of agile collaboration and knowledge sharing

3. Prerequisites to participate in the module and/or in individual lectures of the module

Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

4. Recommended prerequisites

<table>
<thead>
<tr>
<th>Allocation of the module</th>
<th>Usability of the module for other study programs</th>
<th>Frequency in which the module is offered</th>
<th>Duration of the module</th>
<th>Module owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Digital Transformation Management (FB 02)</td>
<td>-</td>
<td>Annually</td>
<td>One semester</td>
<td>Michael Pachmajer, Carsten Hentrich, Prof. Dr. R. Holten</td>
</tr>
<tr>
<td>Study records/ where applicable as prerequisite for the exam</td>
<td>Attendance records</td>
<td>Performance records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (Exercise)</td>
<td>A prerequisite for the admission to the module exam can be the provision of unrated performance tasks (short written composition or short presentation or completion of exercises). If the module exam consists of two partial exams, no ungraded performance tasks are required.</td>
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<tr>
<td>Teaching / Learning methods</td>
<td>Lecture and Exercise</td>
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<tr>
<td>Teaching / Examination Language</td>
<td>English</td>
<td></td>
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<tr>
<td>Module Exam</td>
<td>In-class exam (90 minutes, 100%) or take-home assignment (10-15 pages, 100%) or in-class exam (45 minutes, 50%) and take-home assignment (max. 7 pages, 50%).</td>
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<tr>
<td>(Form, duration, calculation of the module grades)</td>
<td>Type of course</td>
<td>CP</td>
<td>Semester</td>
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<td>(EL1 - EL4)</td>
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<tr>
<td>Total</td>
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<td>5</td>
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</table>
Short Name: DSBA (EL1 - EL4)
Module Name: Data Science & Business Analytics
Module Type: Optional compulsory module of the specialization phase (Elective)
5 CP (total) = 150 h
Contact studies 24 h
Self studies 126 h

<table>
<thead>
<tr>
<th>Content</th>
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<tbody>
<tr>
<td>The course “Data Science &amp; Business Analytics” will familiarize participants with the basic concepts of data science and business analytics in today’s data rich digital environments. Specifically, this course will deal with questions of preparing the right information at the right time for the respective management teams using state-of-the-art teaching techniques such as business case-studies, real-world data samples, and mini-exercises. We will deal in depth with management questions that revolve around data mining, machine learning, and concepts such as big data, date storage, online analytical processing, and business analytics as well as conducting field experiments and A/B-Tests to arrive at better management decisions. Specific concepts covered are:</td>
</tr>
<tr>
<td>• Management Information Requirements</td>
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<td>• Online Analytical Processing</td>
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<td>• Data Mining</td>
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<tr>
<td>• Business Analytics</td>
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<td>• Data Warehouse and Storage</td>
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<td>• Cloud Computing</td>
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<td>• Machine Learning</td>
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<td>• Field Experiments and A/B-Testing</td>
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<tr>
<th>Learning results / Competency goals</th>
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<tbody>
<tr>
<td>Upon completion of this course, you will be able to:</td>
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<tr>
<td>• Understand the principles of management information and data aggregation.</td>
</tr>
<tr>
<td>• How to answer management relevant question with data.</td>
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<tr>
<td>• Know the core metrics to understand management issues and how to solve them.</td>
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<tr>
<td>• Identify the relevant data to calculate and predict core KPIs.</td>
</tr>
<tr>
<td>• Apply the basic quantitative and statistical skills to determine KPIs from raw data.</td>
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<td>• Understand how machines learn and how to generate information from existing data for successful management.</td>
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<td>• Understand what big data is and how it can help you.</td>
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<tr>
<td>• Understand how business analytics helps make better management decisions</td>
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<tbody>
<tr>
<td>Allocation of the module Master of Digital Transformation Management (FB 02)</td>
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<tr>
<td>Usability of the module for other study programs -</td>
</tr>
<tr>
<td>Frequency in which the module is offered Annually</td>
</tr>
<tr>
<td>Duration of the module One semester</td>
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<tr>
<td>Module owner Jun.-Prof. Dr. Klaus Miller</td>
</tr>
<tr>
<td>Study records/ where applicable as prerequisite for the exam Yes (Exercise)</td>
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<tr>
<th>Module Exam (Form, duration, calculation of the module grades)</th>
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<tr>
<td>The format of the module exam will be defined by faculty at the beginning of the course.</td>
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<tr>
<td>Type of course</td>
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<tr>
<td>(EL1 - EL4) L</td>
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<tr>
<td>(EL1 - EL4) E</td>
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<tr>
<td>Total</td>
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</table>
**Content**

The course “Digital Transformation & Project Management” covers basic and advanced project management concepts requisite for a digital transformation initiative. Mostly by means of case studies methods and techniques of modern project management will be presented, discussed and applied. We emphasize methods enabling and accelerating the technological, organizational, technical and also cultural transformation. We also discuss which limits including ethical aspects are to be observed. The course will cover:

- Transfer the digital strategy into detailed objectives and defined programs;
- Corporate digital change and business transformations: organizing digital transformation as a leadership mission;
- Digitalization of business processes as part of the digital transformation;
- Agile program management;
- Integration of concepts such as design thinking, customer centric design/customer journey, MVP as part of program management setups;
- Social collaboration for project communication growing out an network of global and inter organizational network of employees, partners and customers;
- Change Management: approaches, so that new technologies and processes are better understood and accepted within an new corporate culture.

**Learning results / Competency goals**

Students will learn to

- apply state of the art project managements techniques, e.g. for change and transformation programs
- manage agile projects
- understand the nature of digital change initiatives
- integrate digital change as part of your leadership style
- classify den digitalen Wandel als permanente Aufgabe der Unternehmensleitung einzuordnen
- reflect the ethical dimension of digital change for your own work environment

**Prerequisites to participate in the module and/or in individual lectures of the module**

Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

**Recommended prerequisites**

- Master of Digital Transformation Management (FB 02)

**Allocation of the module**

- Usability of the module for other study programs
- Frequency in which the module is offered: Annually
- Duration of the module: One semester
- Module owner: Prof. Dr. Eric Schott, Prof. Dr. Roland Holten

**Study records/ where applicable as prerequisite for the exam**

- Attendance records: Yes (Exercise)
- Performance records: A prerequisite for the admission to the module exam can be the provision of unrated performance tasks (short written composition or short presentation or completion of exercises). If the module exam consists of two partial exams, no ungraded performance tasks are required.

**Teaching / Learning methods**

- Lecture and Exercise

**Teaching / Examination Language**

- English

**Module Exam**

(Format, duration, calculation of the module grades)

The format of the module exam will be defined by faculty at the beginning of the course.

<table>
<thead>
<tr>
<th>Type of course</th>
<th>CP</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>(EL1 - EL4)</td>
<td>L 3</td>
<td>1 2 3 X</td>
</tr>
<tr>
<td>(EL1 - EL4)</td>
<td>2</td>
<td>1 2 3 X</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Short Name: DSCO (EL1 - EL4)
Module Name: Data Security & Compliance

Module Type: Optional compulsory module of the specialization phase (Elective)

5 CP (total) = 150 h

Contact studies 24 h
Self studies 126 h

Content
The basic principles in this course are data security, data law and the regularity of the digital company management. The links between judiciary and law on the national and European level as well as technical challenges to law are addressed. Topics covered are in particular
- Digitization and the law: impacts and interdependencies;
- Legal responsibility for data protection and data security in enterprises;
- Legal issues of data-driven business models;
- Requirements for processing of employee’s data;
- Data protection in digital CRM (social media management, targeted advertisement);
- Protection of trade secrets;
- Digitization in international relations: European and international law.

The course is taught by the lecturers taking into account all ethically relevant aspects of the course content and with special emphasis on consideration of the application according to ethically justifiable options of action in the practical implementation of the learned.

Learning results / Competency goals
The students learn
- to understand relevant legal issues of the digital economy;
- to understand essential laws and important court decisions relevant to digitization;
- to identify situations that imply legal risks to companies or business models;
- to consider the aspects of ethical legitimacy in the implementation of the course content in an adequate form.

Prerequisites to participate in the module and/or in individual lectures of the module
Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

Recommended prerequisites

Allocation of the module
Master of Digital Transformation Management (FB 02)

Usability of the module for other study programs
-

Frequency in which the module is offered
Annually

Duration of the module
One semester

Module owner
Thilo Goeble, Stephan Schindler, Prof. Dr. Roland Holten

Study records/ where applicable as prerequisite for the exam

Attendance records
Yes (Exercise)

Performance records
A prerequisite for the admission to the module exam can be the provision of unrated performance tasks (short written composition or short presentation or completion of exercises). If the module exam consists of two partial exams, no ungraded performance tasks are required.

Teaching / Learning methods
Lecture and Exercise

Teaching / Examination Language
English

Module Exam
(Form, duration, calculation of the module grades)
The format of the module exam will be defined by faculty at the beginning of the course.

Type of course | CP | Semester
---|---|---
L | 3 | 1 | X
E | 2 | 3 | X
Total | 5 | 4

In-class exam (90 minutes, 100%) or take-home assignment (10-15 pages, 100%) or in-class exam (45 minutes, 50%) and take-home assignment (max. 7 pages, 50%).
Short Name: SIDT (EL1 - EL4)
Module Name: Smart Industry & Digital Trends
Module Type: Optional compulsory module of the specialization phase (Elective)
5 CP (total) = 150 h

Contact studies 24 h
Self studies 126 h

Content
This module deals with the basic and future-oriented concepts of digitalization in industry and different economic and social areas. The potentials and limits as well as the induced of digital trends with special focus on industry will be discussed based on scientific and practice-oriented analytical frameworks, methods and case studies. Topics covered in this module are e.g.

- Digital technologies as central drivers of the digital transformation
  - Internet of Things, industrial Internet of Things, integration of production and information technology
  - Sensor technologies, Wearables, Nearables, augmented Reality, artificial intelligence, block chain, additive fabrication etc.
- New value chain model in companies and across corporate networks
  - Architectural models (technology stack, RAMI 4.0 Reference architecture model Industrie 4.0 etc.)
  - Consistent digital data chains and digital twins of physical products and production sites
  - Big Data, smart Data, data analytics and data-driven services
  - Service orientation based on smart components and products, Smart Services

Learning results / Competency goals
The students learn
- To get to know technological basics of digital systems
- to understand current digitization trends
- to analyze the potential and challenges of digital trends in different fields of economy
- to critically assess overall concepts such as Industry 4.0
- to consider the aspects of ethical acceptability in the implementation of learning content adequately

Prerequisites to participate in the module and/or in individual lectures of the module
Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

Recommended prerequisites
- Master of Digital Transformation Management (FB 02)

Allocation of the module
Usability of the module for other study programs
Frequency in which the module is offered
One semester
Module owner
Prof. Dr. Henner Gimpel, Prof. Dr. Roland Holten

Study records/ where applicable as prerequisite for the exam

Performance records
A prerequisite for the admission to the module exam can be the provision of unrated performance tasks (short written composition or short presentation or completion of exercises). If the module exam consists of two partial exams, no ungraded performance tasks are required.

Teaching / Learning methods
Lecture and Exercise

Teaching / Examination Language
English

Module Exam
(Form, duration, calculation of the module grades)
The format of the module exam will be defined by faculty at the beginning of the course.

Type of course CP Semester
EL1 3 1
EL4 1
EL2 2 2
EL4 1
Total 5 3

In-class exam (90 minutes, 100%) or take-home assignment (10-15 pages, 100%) or in-class exam (45 minutes, 50%) and take-home assignment (max. 7 pages, 50%).
Short Name: DIIN (EL1 - EL4)
Module Name: Digital Innovation & Incubation
Module Type: Optional compulsory module of the specialization phase (Elective)
5 CP (total) = 150 h
Contact studies 24 h
Self studies 126 h

Content
This course teaches strategic innovation management and business model design from a theoretical and a practical perspective. With respect to the current digital transformation it helps participants to successfully structure and lead innovation projects. Among others the content of the course is as follows:
- Importance and nature of disruptive innovation
- Methods for Innovation and product development
- Business Model Innovation and Business Model Design
- Agile Working, experimenting and testing
- Idea Generation, Idea Evaluation and Idea Development

Learning results / Competency goals
The students
- understand the current challenges of the digital transformation and its implications for the innovation management
- learn in a structured way how to deal with uncertainty and enter new markets
- can design digital business and develop a first minimum viable product
- understand the difference of traditional management approaches and agile working
- are able to sit in the driver’s seat and lead an innovation team

Prerequisites to participate in the module and/or in individual lectures of the module
Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

Recommended prerequisites
- 

Allocation of the module
Master of Digital Transformation Management (FB 02)

Usability of the module for other study programs
- 

Frequency in which the module is offered
Annually

Duration of the module
One semester

Module owner
Dr. Thomas Funke, Dr. Sebastian Schäfer, Prof. Dr. Lars Schweizer

Study records/ where applicable as prerequisite for the exam
Attendance records
Yes (Exercise)

Performance records
A prerequisite for the admission to the module exam can be the provision of unrated performance tasks (short written composition or short presentation or completion of exercises). If the module exam consists of two partial exams, no ungraded performance tasks are required.

Teaching / Learning methods
Lecture and Exercise

Teaching / Examination Language
English

Module Exam
(Form, duration, calculation of the module grades)
The format of the module exam will be defined by faculty at the beginning of the course.

<table>
<thead>
<tr>
<th>Semester</th>
<th>1</th>
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</tbody>
</table>
**Short Name:** DIIF (EL1 - EL4)  
**Module Name:** Digitalization in Finance (FinTech, InsurTech, RegTech)  
**Module Type:** Optional compulsory module of the specialization phase (Elective)  
**CP (total) = 150 h**  
**Contact studies**  
| 24 h  
**Self studies**  
| 126 h

### Content

This course focuses on the massive changes caused by digitalization in the banking and insurance industry. The creation of numerous Fintechs and Insurtechs during the past years produces major effects on the established players within the banking and insurance business. We will consider the disruptive business models of startups as well as the challenges they represent for traditional companies in finance. The module will cover the following:

- The digital landscape: An overview of digital development & players
- Digital basics: Most relevant trends and terminology
- Challenges and threats for the insurance value chain
- Digital products: From social profiling to smart fingerprints
- Digital distribution: From Robochat to video consulting
- Digital marketing & customer service
- Digital strategies: From innovation leader to slow follower: What’s best?
- Digital innovation management: How to organize innovation?
- How to manage the digital change? Threat or chance?

### Learning results / Competency goals

Students will learn

- About the current market situation for Fintech and Insurtech and about the essential market players
- About the role of regulation for the development of new digital players
- About the influence of digitalization on individual elements of the value chain.
- How corporate digital strategies are developed
- Which digital business model have a disruptive character and why

### Prerequisites to participate in the module and/or in individual lectures of the module

Participation in this module requires the successful completion of at least three of the recommended four modules offered during the 1st semester and of at least three of the recommended four modules of the 2nd semester according to the study schedule (Attachment 2 of the Examination Regulations).

### Recommended prerequisites

- Master of Digital Transformation Management (FB 02)

### Allocation of the module

Usability of the module for other study programs  
- Frequency in which the module is offered  
  Annually  
Duration of the module  
One semester  

### Module owner

Prof. Dr. Andreas Hackethal, Dr. Moritz Finkelnburg

### Study records/ where applicable as prerequisite for the exam

<table>
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### Teaching / Learning methods

Lecture and Exercise

### Module Exam  
(Form, duration, calculation of the module grades)

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<th>Semester 3</th>
<th>Semester 4</th>
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# Master Thesis & Seminar

<table>
<thead>
<tr>
<th><strong>Module name:</strong> Seminar Scientific Methods for Research &amp; Writing (SMRW)</th>
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</thead>
<tbody>
<tr>
<td><strong>Type of module:</strong> Compulsory, completion-phase module (6 CP)</td>
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</tbody>
</table>

## 1. Content:

The seminar offers students an introduction into academic work (literature search, use of literature in their own papers, etc.) in the Management and IT or digital context. Current research topics in the area of management in the IT industry in the context of the challenges of the digital transformation are discussed and developed within the seminar. The development and positioning of research papers is at the heart of the seminar. There is discussion, in particular, of the appropriate design of study for empirical work. The seminar is therefore an ideal preparation for Master's theses.

Following the introduction to academic work (Part 1) the students then present the results of their research work (Part 2).

## 2. Learning outcomes/skills objectives:

The core objectives of the seminar lie in the following areas:

- Students learn how to research a topic with the inclusion not just of management but also of IT or digital-specific content.
- Students understand how scientific papers are structured in the interdisciplinary context.
- Students understand how Master's theses should be structured and implemented in the context of the inclusion of practice-based aspects relevant to management and IT.

## 3. Preconditions to participation:

Participation in the module is conditional upon successfully passing module examinations in the compulsory modules for the first two semesters recommended under the course schedule (Appendix 2).

## 4. Permitted teaching and learning formats:

Seminar

## 5. Course records:

Regular participation (evidence of participation) is a precondition to admission to the module examination.

## 6. Module examination:

Examination on completion of the module, consisting of:

- a presentation (about 20 minutes)

## 7. Module grade:

100% Presentation
<table>
<thead>
<tr>
<th><strong>Module name:</strong> Master's thesis</th>
<th><strong>Type of module:</strong> Compulsory, completion-phase module (20 CP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Content:</strong></td>
<td>Topics from the Management and IT or digital transformation specialism – normally arising from an overarching practice-related question.</td>
</tr>
</tbody>
</table>
| **2. Learning outcomes/skills objectives:** | The students  
• gain content-related and methodological skills in relation to their research work;  
• are able to tackle topics set on the basis of the sound knowledge they have gained from research;  
• are capable of developing and formulating solutions through research.  
The Master's thesis largely takes the format of a research essay that can be submitted to a relevant academic journal |
| **3. Preconditions to participation:** | Participation in the module is conditional upon successfully passing module examinations in the compulsory modules for the first two semesters recommended under the course schedule (Appendix 2) and of at least two of the four options recommended under the course schedule (Appendix 2) for the third semester. |
| **4. Permitted teaching and learning formats:** | Self-study |
| **5. Course records:** | none |
| **6. Module examination:** | Examination on completion of the module, consisting of:  
Master's thesis (20 weeks) |
| **7. Module grade:** | 100% Master's thesis |