

Excerpts

of

Module Descriptions

for the consecutive Master's degree program in

Strategic Information Management

Master of Science (M.Sc.)
Fb 3: Business and Law

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For further information, please refer to the German version.

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Module Descriptions

Module 1: Data Science and Information Retrieval

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written project report (submission period 4 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	<p>The students know how to apply data science procedures. They demonstrate knowledge and understanding of statistical methods which significantly surpass those acquired at the bachelor level.</p> <p>They integrate existing with new knowledge in the area of information retrieval in complex contexts and based on limited information. They are able to make science-based decisions and reflect critically on possible consequences. They are able to make science-based decisions and reflect critically on possible consequences.</p> <p>Students are able to apply data science procedures using Python. They acquire new knowledge and skills independently and carry out application-oriented projects largely self-directed or autonomously.</p>
Module language	English
Module availability	Winter semester

Module 2: Applied Artificial Intelligence

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written project report (submission period 4 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	<p>The students know and can explain the challenges and the underlying problems associated with artificial intelligence. They work cooperatively with others to identify potential conflicts and reflect these against the background of situation-overlapping conditions. Students are able to make science-based decisions and reflect critically on possible consequences. They have a broad, detailed and critical understanding of the latest tools and techniques associated with artificial intelligence. They can classify certain project situations as AI problems. They can think critically about new technologies and can evaluate the consequences of their decisions.</p>
Module language	English
Module availability	Winter semester

Module 3: Data Management Analysis and Reporting

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>Students are able to support the implementation of successful BI solutions by defining and communicating requirements in data-driven projects. Requirements definition includes writing specifications for the definition of semantic data structures through dimensional modelling techniques (DWH) and for the creation of reports, thereby supporting the implementation of BI solutions.</p> <p>Students deepen their understanding of relational databases by applying modelling techniques (entity relationship modelling) and normalization techniques for the definition of reliable database structures which form the foundation, e.g., for company reports and dashboards.</p> <p>Students apply reporting solutions such as Power BI in case studies delivering dashboard reports for management.</p> <p>They acquire basic knowledge on advanced data management topics such as big data file</p>

	storage, data lakes and in-memory databases.
Module language	English
Module availability	Winter semester

Module 4: Research Methods

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written project report (submission period 4 weeks) with presentation (15 to 30 min.)
Learning outcomes and skills	<p>Students know and can explain the difference between quantitative and qualitative research methods and can apply those to practical examples. They are able to prepare questionnaires and to execute a small quantitative or qualitative research study. Therefore, the students understand how to handle each step of the research process and can prepare academic research papers and presentations.</p> <p>Students are able to apply their knowledge in the area of empirical research and management. They can analyze complex real-world corporate problems and present their results adequately and effectively.</p> <p>Students sharpen their analytic skills and are able to frame and communicate research questions adequately. They can use tools like SPSS or the open source software R.</p>
Module language	English
Module availability	Winter semester

Module 5: International Strategic Management

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>At the end of the module students are able to:</p> <ul style="list-style-type: none"> • Explain how today's businesses use strategic management to establish a sustained competitive advantage in an international environment, • Examine contemporary management issues, revealing the strengths and weaknesses of a corporation and its competitors in an international environment, • Appreciate the role that social institutions – such as the economic system, the political system, the education system and religion – play in any multinational corporation, • Understand the key topics of formation and implementation of strategies in the global environment, the building of strategic alliances, negotiation and cross-cultural communication, international marketing, and corporate social responsibility, • Contemplate cross-functionally, blending topics from human resource management, marketing, finance, operations, accounting and economic disciplines, • Analyze strategic problems in international management and explain strategic management tools and concepts, • Develop solutions to business problems, recommend adaptations to organizational practices, suggest alternative solutions and defend their position.
Module language	English
Module availability	Winter semester

Module 6: Boundaryless Leadership

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written project report (submission period 6 weeks) with presentation (20 to 30 min.)
Learning outcomes and skills	<p>Students are aware of the complexity and dynamics of the environment and understand the challenges for leadership. They are familiar with leadership approaches and are able to identify leadership challenges and projects.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> • Identify leadership challenges in a complex und dynamic environment, • Analyze how they promote a holistic understanding of leadership, • Describe how they develop relationships in virtual, agile and non-hierarchical settings, • Explain how they encounter dissolving boundaries of organizations, hierarchies, working structures and cultures, • Discuss the importance of resilience and prerequisites to develop resilience, • Present facts, reflections and conclusions in a structured manner and to discuss issues in professional contexts.
Module language	English
Module availability	Winter semester

Module 7: Data and Process Integration

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>The students are able to:</p> <ul style="list-style-type: none"> • Describe how modern IT organizations can confront and manage the challenges of data and process integration, • Independently prepare data requirement documents for the conception of data integration and cleansing procedures and communicate them effectively (with appropriate methodology), • Apply selected practical methods of data and process integration (ETL, hive, etc.). <p>In this module, interdisciplinary competencies continue to be developed. The students are able to deal with group dynamics in teamwork and to act appropriately.</p>
Module language	German
Module availability	Summer semester

Module 8: Ethics and Law in Big Data

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>The students gain sound knowledge of data protection and ethics in the context of big data analysis. They are able to identify ethically relevant issues and circumstances, competently assess big data analyses from a data protection and ethical perspective and contribute to discourse on this subject. They can to classify concrete examples of applications under data protection law, identify legal issues, and develop and implement technical and organizational measures appropriate for data protection requirements. They are able to identify the ethical challenges associated with the implementation of big data analyses and develop appropriate options for their value-oriented application.</p>
Module language	German

Module availability	Summer semester
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Module 9: Agile Business Intelligence and Agile Project Management

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>The students know how to apply the advanced techniques and methods of project and multi-project management. They weigh scientific epistemological correctness against each other, taking scientific and methodological considerations into account. Using these assessment tools, they can solve practical problems in projects with the help of scientific findings, as they master the corresponding techniques and methods. They are able to apply agile procedures.</p> <p>The students are able to carry out application-oriented projects largely or entirely autonomously. They are able to recognize the conflict potential in cooperation with others and reflect on it against the background of conditions that transcend situations while working on projects. Through constructive, conceptual action, they guarantee the implementation of situation-appropriate solution processes.</p>
Module language	German
Module availability	Summer semester

Module 10: Data Analytics Research Project

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Presentation (15 to 30 min.) with written report (submission period 4 weeks)
Learning outcomes and skills	<p>The students deepen the knowledge gained during their studies with a case study in the context of a current group research project. They are able to:</p> <ul style="list-style-type: none"> • Apply already acquired fields of knowledge, • Methodically prepare and present topics, • Apply theoretical knowledge to a practical problem, • Apply methods and procedures using statistical software packages such as R • Reflect on scientific approaches in a group setting. <p>They can carry out application-oriented projects largely independently and design research questions independently. In doing so they select concrete methods of implementation and justify them.</p> <p>In this module, interdisciplinary competencies are also increasingly developed. The students are able to deal with group dynamics associated with teamwork and to act appropriately. They can reflect on the results from an ethical perspective.</p>
Module language	German
Module availability	Summer semester

Module 11: Future Security – Knowledge Management

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Presentation (15 to 30 min.) with written report (submission period 4 weeks)
Learning outcomes and skills	<p>The students are familiar with current theories and practical methods for safeguarding the future, in particular with regard to knowledge, information, risk and value management.</p> <p>The students are able to analyze scenarios of possible developments in society, economy, ecology, geopolitics, politics and families, to develop new hypotheses and to outline and explain the balance between stability and flexibility in social systems.</p> <p>They can describe risk management as a safeguard and in preparation for crisis management, summarize and understand value management as a fundamental control method for securing the future.</p> <p>They demonstrate that they are able to recognize, scientifically analyze and discuss terminologies, doctrines and limits of the subject area pertaining to a topic of their choice.</p> <p>They have a broad and critical understanding of how to secure the future in line with the latest state of knowledge.</p> <p>The students are able to understand, describe, analyze and critically discuss current problems and challenges. They can design and discuss different approaches to solutions from different perspectives.</p> <p>During the presentations they discuss the topics, bring in their own ideas and reflect on current and possible approaches and behaviors.</p> <p>They are aware of the social framework conditions of leadership and can act responsibly with regard to their professional self-image.</p>
Module language	German
Module availability	Summer semester

Module 12: Corporate Management

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Written examination (120 min.)
Learning outcomes and skills	<p>The students are able to assess traditional and value-oriented key performance indicators with regard to their suitability for leadership decisions in line with the company's goals. They are familiar with information-economic approaches to behavioral management and can apply them to the internal income statement and its key figures. In particular, they are able to analyze the behavioral effects of key figures, which serve as the basis for financial incentive systems. They are familiar with the extent to which agency conflicts can be reduced by designing the internal income statement accordingly.</p> <p>Additionally, the students can utilize basic microeconomic concepts to depict management problems in economic models and derive concrete recommendations for action for decision makers in companies using these. For this purpose, they use techniques and methods such as game theory or industrial economics as analysis tools and they learn to apply them using real management problems. The students are able to build a bridge between management and microeconomics. They gain a better understanding of their company's situation and can ultimately make better management decisions.</p>
Module language	German
Module availability	Summer semester

Module 13: Digital Business Transformation

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Presentation (15 to 30 min.) with written report (submission period 4 weeks)
Learning outcomes and skills	<p>Students are able to assess the effects of digitization and apply concrete approaches and techniques of transformation. They are knowledgeable about the application areas of new business models. They are aware of the influence innovations have. Building on the bachelor level, they have knowledge of application areas for new technologies and significantly expand this. They are able to define and interpret peculiarities, limits, terminology and doctrines in this field. They can analyze the requirements of traditional departments through digitization and derive recommendations for action. They can develop a digital strategy and demonstrate innovative agile forms of organization and work.</p> <p>The students justify their own actions with theoretical and methodical knowledge and reflect on it with regard to alternative drafts. They are able to assess their own abilities and make use of factual freedom of design and decision making.</p>
Module language	German
Module availability	Winter semester

Module 14: Change Management in IT Projects

ECTS Credits (CP) / Workload (h)	5 / 150
Module examination	Presentation (15 to 30 min.) with written report (submission period 4 weeks)
Learning outcomes and skills	<p>The students are familiar with classical as well as newer theories on the subject of change management. They also gain knowledge of the instruments and fields of application of (modern) change management. They are trained to work on corresponding case studies and to relate them to business practice (e.g. when introducing new software systems). They can possibly reflect on their own operational change management experiences to re-evaluate them.</p> <p>The students have a broad and critical understanding of change management and its anchoring in an organizational (e.g. IT) and social context. They perceive the topic of digitization as a framework condition (to be influenced).</p> <p>Students are able to understand, describe and discuss the current problems and challenges of change management and related topic areas and drivers (e.g. management consulting). They can design and discuss different approaches from different perspectives.</p> <p>They discuss their own ideas within the framework of specially selected topics and reflect on current and possible new approaches and behaviors.</p> <p>They understand the organizational responsibility of change management as well as its limitations.</p>
Module language	German
Module availability	Winter semester

Module 15: Master-Thesis with Colloquium

ECTS Credits (CP) / Workload (h)	20 / 600
Module examination	Master-Thesis (submission period 16 weeks) with colloquium (30 to 45 min.)
Learning outcomes and skills	<p>The Master-Thesis is a supervised final thesis which demonstrates the ability to independently apply scientific methods within a specified period of time.</p> <p>On the basis of in-depth and/or specialised knowledge, especially in the field of strategic information management, students generate solutions to problems in new and unknown subject areas.</p>

	<p>The students find their own research topics and choose suitable ways of operationalization and justify them. The results critically reflect on these and point to still open questions.</p> <p>The Master-Thesis must be submitted in writing.</p>
Module language	German
Module availability	Winter and summer semester

Module 16: Practical Application Project

ECTS Credits (CP) / Workload (h)	30 / 900
Module examination	Practical application report (submission period 20 weeks) with a presentation (20 to 45 min.)
Learning outcomes and skills	<p>The students are able to apply and reflect on the technical and methodological competencies acquired in their previous studies based on their previous or current practical work. They can discuss examples from professional practice in the context of the theoretical background gained during their studies and reflect on the mutual relevance of the contents and methods.</p> <p>They are able to recognize and analyze current practical and theoretical developments, place them in the respective field of practice and transfer scientific methodological competence to practice.</p> <p>They are able to reflect on their own ideas and approaches and question them critically. The students are able to acquire new knowledge independently and using their own motivation and to deal with their own learning progress in a critical way.</p>
Module language	German
Module availability	Winter semester