Valid from 2026.HS

Module description: AI in Practice

Module Code	w.MA.XX.AIPR.26HS
ECTS Credits	3
Language of Instruction/Examination	English
Module Description	This module provides students with a comprehensive understanding of how artificial intelligence (AI) is transforming businesses, industries, and value creation processes. It explores the fundamentals of AI technologies - including machine learning, natural language processing, and generative AI - and examines how these technologies can be applied to real-world business challenges. The module focuses on translating AI capabilities into business value by identifying relevant use cases, designing AI-driven solutions, and evaluating their strategic, operational, and ethical implications. Students will learn how organizations can successfully develop, implement, and scale AI applications across different functional areas such as marketing, operations, finance, and customer service. A central component of the module is a hands-on group project, where students work in teams of 4 to 5 to design and develop an AI-based solution for a concrete business problem. Through this project, students gain first-hand experience in the end-to-end AI lifecycle, including problem definition, data considerations, model selection, prototyping, and evaluation of business impact. The project also emphasizes collaboration, agile working methods, and communication of technical concepts to non-technical stakeholders. In addition, the module addresses key challenges and risks associated with AI, including data quality, bias, governance, and ethical considerations. Students will develop a critical perspective on the responsible use of AI in business and society. By the end of the module, students will be equipped to identify AI opportunities, assess their feasibility, and contribute to the successful implementation of AI solutions in organizational contexts.
Organizational Unit	Institute for Organizational Viability
Module Coordinator	Heiko Gebauer
Deputy Module Coordinator	Gunther Kucza
Legal Framework	Academic Regulations MSc in Business Administration dated 04.06.2009, Appendix to the Academic Regulations for the degree program in Business Administration (Innovation and Entrepreneurship), first adopted on 22.09.2019 Academic Regulations MSc in Business Administration dated 04.06.2009, Appendix to the Academic Regulations for the degree program in Business Administration (Enterprise Development), first adopted on 09.11.2021
Module Category	**Module Type** Compulsory Elective
Contribution to Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence

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Contribution to Learning Objectives	**Professional Competence** • Knowing and Understanding Content of Theoretical and Practical Relevance • Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance • Evaluate Content of Theoretical and Practical Relevance **Methodological Competence** • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation **Social Competence** • Written Communication • Oral Communication • Teamwork & Conflict Management • Intercultural Insight & Ability to Change Perspective **Self-Competence** • Self-Management & Self-Reflection • Ethical & Social Responsibility • Learning & Change
Module Learning Objectives	Students... • gain an overview of key artificial intelligence technologies (e.g., machine learning, natural language processing, generative AI) and their relevance for business applications. • develop a deep understanding of how AI creates business value, including opportunities, limitations, and risks across different industries and functional areas. Knowing and understanding. • identify and assess suitable AI use cases for organizations by linking business problems with appropriate AI solutions. • design and develop AI-based solutions in a structured way, including problem definition, data requirements, model selection, and evaluation of outcomes. • apply practical skills through a group-based AI project, gaining hands-on experience in developing, implementing, and presenting AI solutions in a business context. • evaluate the business impact and feasibility of AI initiatives, including economic, operational, and strategic implications. • understand how to implement and scale AI solutions within organizations, including integration into processes, data infrastructures, and business models. • critically reflect on ethical, legal, and societal implications of AI, including issues such as bias, transparency, accountability, and responsible innovation. • communicate AI concepts and project results effectively to both technical and non-technical stakeholders.

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Module Content

Introduction to AI in Business

- Overview of key AI concepts and technologies (e.g., machine learning, natural language processing, generative AI) and their role in digital transformation
- Discussion of current trends, capabilities, and limitations of AI in organizational contexts

AI Use Cases and Business Applications

- Identification and analysis of AI applications across different industries and functional areas (e.g., marketing, operations, finance, customer service)
- Exploration of how AI creates value and supports decision-making, automation, and innovation

AI Project with Industry Collaboration

- Students work in groups of 4 to 5 on a real-world AI project in collaboration with a company.
- The project focuses on solving a concrete business problem using AI. Typical project phases include: • Problem definition and scoping with the company. • Identification of relevant data sources and requirements. • Selection and application of suitable AI methods and tools. • Development of a prototype or conceptual solution. • Evaluation of business value, feasibility, and limitations.

AI Development and Implementation Process

- Introduction to the end-to-end AI lifecycle, including data preparation, model development, validation, deployment considerations, and integration into business processes.
- Discussion of challenges in scaling AI solutions within organizations.

Links to other modules

w.MA.XX.DFRI.23HS / Digital Futures & Responsible Innovation

Digital Learning Resources

- Reader
- Case Studies (with Key)

Methods of Instruction

- Project Work
- Application Tasks
- Lecture

Social Settings Used:
- Group Work

Type of Instruction

	Classroom Instruction	Guided Self-Study	Autonomous Self-Study
Lecture	10 h	30 h	
Excercise	-	-	
Project Work	18 h	10 h	
Seminar	-	-	
Total	**28 h**	**40 h**	**22 h**

Performance Assessment

End-of-module exam	Form	Length (min.)	Weighting
-			
Permitted Resources			

	Assessment	Format	Length (min.)	Weighting
Talk/oral presentation	Grade	Group work	30	100.00%

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Classroom Attendance Requirement	Other Attendance is compulsory for the final presentation of the group work and is considered an essential component of participation, comparable to mandatory presence in professional company meetings where team members are expected to contribute, present results, and engage in discussions. Being present ensures accountability, effective collaboration, and the opportunity to respond to questions or feedback in real time. In the event of non-attendance without valid justification, the final presentation will be awarded a grade of 1.0. For group work, the active participation of all group members is required, and attendance is therefore mandatory. If a student fails to participate, their group work will be graded with a 1.0.
Compulsory Reading	• Lecturer's slides and reader (electronically available on Moodle)
Comments	Participation is limited to 20 students.