Valid from 2025.HS

Module description: Digital Futures & Responsible Innovation

Module Code	w.MA.XX.DFRI.23HS
ECTS Credits	6
Language of Instruction/Examination	English
Module Description	This module gives students a clear picture of how digital technologies will shape the future of businesses, markets, and consumers. "Digital futures" describe scenarios and trends that emerge from the continued advancement and integration of digital technologies in our economy & society. This module provides insights into how digital technologies can be transformed into responsible innovations that not only drive progress but also uphold ethical standards, contribute positively to society, and foster a sustainable future. Students will learn about technologies like the augmented and virtual reality, artificial intelligence (AI), generative AI, humanoid robotics, Internet of Things, metaverse, and quantum computing. The module covers where these technologies are now, where they are heading, and how companies can use them successfully. The focus is on practical applications and important use-cases, showing how real companies are adopting these technologies to create sustainable and responsible innovations. This module combines knowledge of these digital technologies with an understanding of the resulting business opportunities. Students will see how these digital technologies are being transformed in digital and responsible innovation. Students will learn how these digital innovations are used in various industries like financial services, retail, healthcare, energy, IT, manufacturing, construction, and transportation. The module also emphasizes the ethical aspects and responsibilities tied to these technologies, preparing students to implement them in a responsible and innovative way. By gaining knowledge about these digital technologies and innovations, students will get prepared about potential changes coming in the next decade. By the end of the course, students will be equipped to explore and seize business opportunities related to these technological advancements. Overall, "digital futures" is a forward-looking concept that explores how digital transformation will shape various aspects of human life, offering both opportunities and challenges as we navigate this rapidly changing landscape.
Organizational Unit	Institute for Organizational Viability
Module Coordinator	Gunther Kucza
Deputy Module Coordinator	Heiko Gebauer
Program and Specialization	• Business Administration - Specialization in Enterprise Development
Legal Framework	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
Prerequisite Knowledge	
Contribution to Program Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence

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Contribution to Program 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 the relevant digital technologies for the next decade. • develop a deep understanding of the status, development paths, and risks of digital technologies. • envision possible digital futures and scenarios for companies, markets, and consumers. • understand how these technologies will transform companies, markets, and consumers. • familiarize themselves with the specific opportunities for companies or corporate areas (e.g., finance, customer service, marketing, human resources). • understand how to commercialize these technologies and how to implement them in business successfully (e.g., subscription, software-as-a-service, data-centric business models). • describe and develop individual options of sustainable, responsible innovations for selected companies. • develop use-cases for these possible sustainable, responsible innovations. • describe relevant elements of these use cases through a use-case template. • present and defend the developed innovation (use-case) in a final presentation in the form of a simulated strategy meeting. • learn about the ethical aspects and boundaries of digital technologies.
Module Content	• "Digital futures" as a forward-looking concept to describe how digital technologies will shape various aspects of economy & society, offering both opportunities and challenges as businesses navigate this rapidly changing landscape • Process of converting digital technologies into responsible innovations that not only drive progress and open-up business opportunities but also uphold ethical standards, contribute positively to society, and foster a sustainable future. • Internet of Things (IoT) - connecting everyday objects to the internet, enabling them to collect and exchange data. • Artificial intelligence - evolving rapidly, with advancements in machine learning, natural language processing, and computer vision. • Generative artificial intelligence - generating new content that mimics or resembles human-created content (e.g., image generation, text generation, music and audio generation, video generation, and data augmentation. • Cloud versus edge computing - processing data closer to the source rather than relying solely on centralized data centers. • Augmented reality, virtual reality & metaverse - offering immersive experiences in gaming, training, education, and virtual collaborations . • Quantum computing - solving complex problems exponentially faster than classical computers. • Human robotics - sensors and perception, human-robot Interaction, and autonomy and learning. • Opportunities and use-cases of these technologies across all relevant industries (e.g., financial services, retail, healthcare, energy, IT, manufacturing, construction, and transportation).
Links to other modules	This module is linked to the following modules:

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Digital Learning Resources	• Reader • Teaching Videos • Case Studies (with Key)		

Methods of Instruction	• Interactive Instruction • Case Studies • Presentation	Social Settings Used: • Individual Work • Group Work

Type of Instruction

	Classroom Instruction	Guided Self-Study	Autonomous Self-Study
Lecture	40 h	30 h	
Excercise	16 h	30 h	
Project Work	-	30 h	
Seminar	-	-	
Total	**56 h**	**90 h**	**34 h**

Performance Assessment

End-of-module exam	Form	Length (min.)	Weighting
Written exam	open book	60	50.00
Permitted Resources	Free choice calculator	With dictionary	

Others	Assessment	Format	Length (min.)	Weighting
Talk/oral presentation	Grade	Gruppenarbeit	30	50.00

Classroom Attendance Requirement	Other Attendance is compulsory for the final presentation of the group work. In the event of non-attendance, the final presentation will be awarded a grade of 1.0.

Compulsory Reading	• Lecturer's slides and reader (electronically available on Moodle)

Recommended Reading	• Daugherty, P. & Wilson, J. (2022). Radically Human: How new technology is transforming business and shaping our future. 1st edition Edition. Harvard Business Review Press. ISBN 9781647821081. • Shrier, D. (2024). Welcome to AI: A Human Guide to Artificial Intelligence. 1st edition Edition. Harvard Business Review Press. ISBN 9781647827526. • Govindarajan, V. & Venkatraman, V. (2024). Fusion Strategy: How Real-Time Data and AI Will Power the Industrial Future. 1st edition Edition. Harvard Business Review Press. ISBN 9781647826253. • Davenport, T. & Brynjolfsson, E. & McAfee, A. & Wilson, H. (2019). Artificial intelligence: The insights you need from Harvard Business Review. 1st edition Edition. Harvard Business Review Press. ISBN 9781633697898. • Mollick, E. & De Cramer, D. & Neeley, T. & Prabhakant, S. (2024). Generative AI: The insights you need from Harvard Business Review. 1st edition Edition. Harvard Business Review Press. ISBN 9781647826406.

Comments	Requirements for the "Oral Presentation" performance assessment: Penalty for failure to submit within the time limit -> deduction of a whole grade point from the overall module grade. This affects the entire group.