Organisation

Lecturer	Marc Pudelski
Lecture (4 SWS)	Monday 17:00-20:00 | weekly | campus/remote
Credits	6 LP
Prerequisites	None, open to all master students
Exam method	Project & Presentation
Language	English

Fachbereich Maschinenbau und Verfahrenstechnik
Faculty of Mechanical and Process Engineering

Key learnings of this course

After this course you will have learnt…

- **Understand AI's role in industry:** grasp the fundamentals and key concepts of (generative) AI in Industry 4.0

- **Master multi-dimensional analysis:** assess AI initiatives across technology, use cases, data infrastructure, operating model, skills, and regulatory requirements (e.g. EU AI Act).

- **Think and act strategically:** apply core strategy concepts (problem diagnosis, strategic leverage, competitive advantage, game theory) to AI adoption.

- **Design AI-enabled solution:** build low-code AI prototypes with Vibe Coding and AI agents

- **Use AI tools effectively:** learn how to integrate AI tools in your scientific research

The lecture includes a company visit and various guest lectures from industry practitioners.

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Prerequisites for attending

This course is open to all master students. An interdisciplinary mix is encouraged. There are no formal prerequisites, but a high proficiency in English and an openness to learn beyond your domain are expected. No coding background required, but curiosity is a must.

Quotes from former students about similar courses

"A well-structured, clearly defined course with practical insights from both the lecturer and industry guests."

"I enjoyed the interactive style and the mix of strategic thinking with technical implementation."

"Hands-on experience with AI tools and industrial applications – the prototyping assignment was a game-changer."

"Bridging theory and practice through guest lectures made the content feel highly relevant."