

Syllabus
MWI10049 Fundamentals of Engineering
Prof. Dr. Kai Oßwald
Winter Semester 2024

Level	Master	
Credits	3	
Student Contact Hours	n/a	
Workload	90 hours	
Prerequisites	Bachelor Degree in Business Administration	
Time	Block Seminar	
Room	T2.3.08	
Start Date	23.09.2024	
Lecturer(s)	Name	Prof. Dr. Kai Oßwald
	Office	T2.2.14
	Virtual Office	n/a
	Office Hours	n/a
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Summary

Outline of the Course

- Calculations in STEM
- Technical Drawings
- Technical Mechanics
- Materials
- Electrical Engineering

Course Intended Learning Outcomes and their Contribution to Program Intended Learning Outcomes / Program Goals

Program Intended Learning Outcomes	Course Intended Learning Outcomes
After completion of the program the students will be able...	After completion of the course the students will be able...
1 Responsible leadership in organizational contexts	
1.1 ...to demonstrate their solid knowledge of numerous relevant management principles. They are able to explain and discuss them discerningly.	
1.2 ...to apply management principles within an organizational context.	
1.3 ...to reflect discerningly and critically on diverse management principles within an organizational context.	
1.4 ... to understand and deal with the challenges of ethics and sustainability for responsible business operations and are able to deal with them.	
2 Creative problem solving skills in a complex business environment	
2.1 ...to recognize and define problems as well as assess their importance.	
2.2 ...to analyse complex in-company and inter-company problems and challenges from different perspectives and/or within an international context.	
2.3 ...to independently develop creative solutions to complex in-company and inter-company problems and challenges.	
2.4 ...to clarify successfully complex problems and solutions to both experts and laymen.	
3 Creative problem solving skills in a complex business environment	
3.1 ...to demonstrate their knowledge of research methods relevant to engineering and management as well as their advantages and disadvantages.	
3.2 ...to successfully apply research methods relevant to engineering and management.	
3.3 ...to implement relevant research methods in such a way as to deliver reliable and innovative results.	
4 Interface expertise in the technical-economic field	
4.1 ... to utilise well-founded knowledge in the technical and economic fields for the integrative solution of complex tasks.	to apply basic methods of Engineering in practical situations within the technical-economic field.
4.2 ... to apply the methods of project management and successfully organise, implement and manage projects.	
4.3 ... to develop and evaluate alternative solutions, taking into account various specialist disciplines, and to implement them in integrated overall solutions.	

Teaching and Learning Approach

Seminar with large proportions of interactive teaching as well as example assignments.

Literature and Course Materials

Moaveni, Saeed, "Engineering Fundamentals: An Introduction to Engineering, SI." ,Seventh Edition (2024).

Assessment

A written exam will take place several weeks after the block seminar.

Schedule

N/A

Academic Integrity and Student Responsibility**Code of Conduct for Students**

[Link to the Code of Conduct for online Teaching](#)

Teaching Philosophy

This course is designed to be very interactive. The content can be adapted to the previous knowledge and the interests of the participants.

Additional Information