

Faculty of Technology

ENGLISH lectures & projects
Academic Year 2025/26
Subject to change/Status: October 2025

MECHANICAL ENGINEERING (required language level B1) BACHELOR LEVEL	Description	Lecturer	CP / ECTS	Term (Semester)
LECTURE: Soft Skills	Communicating and presenting basics of communication psychology, leading conversations and negotiations, leading teams and working groups (including motivations and tools, meeting management, creativity in teams, discussion situations, mastering appraisal interviews, leadership role, task and instruments, skills, learning and implementing conversation.	Mr Schmidt	5	fall
LECTURE: Quality Management & Quality Assurance	Introduction to quality management; QM philosophies; QM standards: general QM methods and tools; problem solving tools; management tools; quality costs; quality and law. Basics of statistics; acceptance sampling inspection; capability studies and characteristics; control charts; CAQ; supplier selection and evaluation; quality costs.	Mrs Blattmeier	5	fall
LECTURE: Logistic & Supply Chain Management	Knowledge of the role and activities of supply chain and logistics management as key elements for the successful management of companies; understanding the importance of customer thoughts in the entire chain; understanding of entire value-added networks, their planning and control techniques; understanding of the many instruments for analysis and problem solving in logistics chains.	Mr Schleuter	5	fall
LECTURE: Int. Project Management	Fundamentals of Project Management, Work Breakdown Structures, Project Scheduling and Budgeting, Earned Value Method, Risk Analysis in Projects, Project Organisations, Project Closure and Audit, PCSimulation	Mr. Passenheim	5	fall
SEMINAR: Digital Marketing Prerequisites: Sufficient knowledge of English and basic knowledge of marketing is required	International marketing activities are explored; international market research, strategic issues, international marketing mix; additional aspects such as generic internationalization strategies, methods of evaluating and selecting countries as target markets, and market entry modes extend the scope of contents to entirely new fields; exercises and case studies are used to apply learned contents to real-life scenarios.	Mr. Hummels	5	fall
LECTURE: Advanced Project Management for Engineers	Master level (available upon request)	Mr Haja	5	fall

LECTURE: Control of and with Smart Products	<p>Students can choose and program microcontroller boards for products. Students can select and describe microcontroller boards and the necessary sensors and actuators. Students can describe and create programs for microcontroller boards. The module serves as an input for the semester project and provides a foundation for understanding smart products.</p> <p>Content: Assembly of a control system, Data flow in control systems, Hardware for control systems, Microcontroller boards, Sensors, Actuators, Programming of microcontrollers, Documentation of programs and hardware, Case studies.</p>	Mr. Wings	5	spring
LECTURE: Data Analysis and Machine Learning	<p>Data analysis and machine learning is an interdisciplinary field that combines the areas of computer science, mathematics and an application area. After this event, the students are able to set up a process for knowledge acquisition from data. The students understand how all three subfields are considered equally. The students know the essential components of data analysis and their tasks. They are familiar with the basic functions of the components. The students know the general structure of the components and can illustrate and apply the basic algorithms and methods. They know not only libraries, frameworks, modules and toolkits, but can use them specifically. As a result, they develop a deeper understanding of the relationships and learn how essential tools and algorithms of data analysis work in the core.</p> <p>Content: Basics of Linear Algebra; Statistics and Probability Theory; Algorithms from the field of Data Science; Models, e.g. k-Nearest Neighbors, Naive Bayes, Linear and Logistic Regression, Decision Trees, Neural Networks and Clustering. Methods of supervised, unsupervised and reinforced learning. Applications, e.g. from the field of Production Technology.</p>	Mr. Wings	5	spring
LECTURE: Digital Business Models and After Sales	<p>Qualification objective Within the framework of the module, students are able to develop digital and sustainable business models, by selecting a suitable business model pattern, structuring a business model with the Business Model Canvas framework and identifying the value for the customer with the Value Proposition Canvas framework, in order to align value creation sustainably with a business model.</p> <p>Content: Business models and digital business models: structure, characteristics, goals; Life cycle of business models; The Business Model Canvas and the Value Proposition Canvas; Business model innovations; Application of digital business models in the digital economy: zero-cost society, network effects, two-sidedness, platform economy; Digital transformation of after-sales.</p>	Mrs Blattmeier	5	spring

LECTURE: Product Management and Marketing	<p>Qualification objective</p> <p>The module accompanies students in developing competences for the organization of product management. With the help of market analysis, students design a product portfolio, build a corresponding marketing concept, with which they integrate the products of the portfolio into the market based on digital technologies as an innovation, in order to meet the requirements of customers and see sustainability as a basic characteristic of a modern business model. The module is also an input for the semester project.</p> <p>Content:</p> <p>Goal setting of product management; Organizational forms for product management; Innovation management within the framework of product management; Brand and brand management, concept development of digital marketing.</p>	Mrs Blattmeier	5	spring
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