

Faculty of Technology

ENGLISH lectures & projects
Academic Year 2024/25

MECHANICAL ENGINEERING (required language level B1) BACHELOR LEVEL Subject to change /status March 2024	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 (5)
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 (5)
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 (5)
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 (5)
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 (5),
LECTURE: Advanced Project Management for Engineers	Master level (available upon request)	Mr Haja	5	fall

SUSTAINABLE ENERGY SYSTEMS Interdisciplinary programme from departments of MECHANICAL ENGINEERING and NATURAL SCIENCES BACHELOR LEVEL (required language level B2) Subject to change /March 2024	Description	Lecturer	CP / ECTS	Term (Semester)
LECTURE: Introduction to modelling and simulation	Types of numerical models, scientific computing, programming of simple models in Matlab. Knowledge of thermodynamics and fluid mechanics needed.	Mr Herráez	5	fall (5)
LECTURE: Simulation of energy systems Prerequisites: basic knowledge of programming. Only open to limited no. of students	Modelling, simulation and analysis of local energy systems with producers, consumers and prosumers	Ms Pechmann	5	fall (5)
LECTURE: Energy storage	Storage of thermal, chemical, electrical and kinetic energy, as well as potential energy. Fuel cell and hydrogen storage.	Mr Illing	5	fall (5)
LECTURE: Wind turbines	Design of wind turbines and wind farms, aerodynamics, structural dynamics, wind resource and site assessment. Knowledge of thermodynamics and fluid mechanics needed.	Mr. Herráez	5	spring (4)
PROJECT: Wind challenge	Design and production of a small wind turbine in cooperation with a group of students from different backgrounds for participating in an international wind energy contest. Knowledge of thermodynamics and fluid mechanics needed.	Mr. Herráez	2	fall and spring
LECTURE: Solar Thermal Energy	Solar resource, design of solar thermal systems, performance analysis. Knowledge of thermodynamics and fluid mechanics needed.	Mr Herráez	2,5	spring (4)
LECTURE: Photovoltaics	Physical principles of the use of photovoltaic energy, components of photovoltaic installations, design of photovoltaics systems. Basic knowledge of electrical engineering needed! Knowledge of thermodynamics and fluid mechanics needed.	Mr. Herráez	2,5	spring (4)
LECTURE: Sustainable Production Prerequisites: Basic knowledge of programming. Only open for limited no. of students	Globalization and climate change, production systems and production management systems, requirements for sustainable production	Mrs Pechmann	5	spring (4)
LECTURE: Thermal Power Plants	Types of Thermal Power Plants, heat sources, power machines, efficiency, emissions, power density	Mr. Jakiel	5	spring (6)
LECTURE: Energy Process Technology	Optimization of energy-relevant process, analysis of thermodynamics, chemical and biological aspects	Mr Paul	5	spring (6)
LECTURE: Process modelling and energy optimization	Modelling of chemical and environmental processes, commercial process simulators, development and optimization of energy processes	Mr Steinigeweg	4	spring (6)
LECTURE: Sustainable energy generation	Energy supply chains and their technical, environmental and economic dimensions	Mr. Paul	2	spring (6)
LECTURE: Laboratory Course Solar Energy	The theory of the lectures Solar Thermal Energy and Photovoltaics will be applied to perform and evaluate different experiments in the field of solar energy.	Mr Herráez	2	spring
PROJECT: Technical Project	Technical Project (wide range of topics possible). Knowledge of thermodynamics and fluid mechanics needed.	Mr Herráez and others	5	fall and spring
PROJECT: Sustainable energy project	Technical Project (focus on sustainable energy) Knowledge of thermodynamics and fluid mechanics needed.	Mr Herráez and others	7	fall and spring

INDUSTRIAL INFORMATICS (required language level B2) MASTER LEVEL Subject to change /status March 2024	 Description	Lecturer	CP / ECTS	Term
LECTURE: Engineering ICPS (Industrial Cyber-Physical Systems) + Mathematical Modelling of ICPS	Principles and the standard IEC 62890, the students will learn, using examples and case studies from real industrial ICPS, the product and production system engineering life cycle with the value streams it contains. Both modules need to be taken - the lectures contain a theoretical and practical part. Basic knowledge of programming is needed.	Mr Colombo /Mr Veltink	5	fall
LECTURE: Robotic Systems 1 and 2	Overview of different types of robots including structural and behavioral specifications: working-space, energy-sources, etc. Introduction to Robotic. Both modules 1 and 2 need to be completed. Robotics 2 is a practical part. Basic knowledge of programming is needed.	Mr Colombo / Mr Kane	5	fall
LECTURE: Digital Economy & Society	Boundaries between countries and cultures increasingly lose their importance. This course deals on the one hand with change management of the digitization in organizations and businesses.	Mr Mäkiö / Ms Krüger-Basener	5	fall
LECTURE: Analytics & Mathematics	The lecture approaches concepts, algorithms and technology for the analysis of a large amount of data Numerical methods for solving high-dimensional linear and non-linear systems of equations, as well as the process for calibration and Maximum-Likelihood will be addressed.	Mr Colombo/Mr Wings	5	fall
LECTURE: Digitalization & Virtualization of ICPS	A description of how development processes, production lines, manufacturing machinery, field devices and the products themselves can be digitalized and configured as Industrial Cyber-Physical components will be introduced	Mr Colombo / Ms Pechmann	5	spring
LECTURE: Innovation Management	Software development, creative problem solving and idea generation, idea evaluation techniques, write workshop, major characteristics of the Open Innovation paradigm (OI2.0).	Mr Colombo / Mr Mäkiö	5	spring
LECTURE: Industrial Cyber-Physical Systems (ICPS)	A set of technologies and architectural patterns to enable the specification, implementation and operation of industrial cyber-physical systems under the DIN SPEC 91345:2016-04 (RAMI4.0: Reference Architecture Model for Industry 4.0) and Industrial Internet-Reference Architecture (IIRA) standards will be a core part of the lecture's contents.	Mr Colombo	5	spring
LECTURE: Industrial Data Transport Technologies	Ensure end-to-end digital integration of actuator and sensor signals across different levels right up to the upper levels of an enterprise. It is also necessary to develop modularization and reuse strategies in order to enable ad hoc networking and re-configurability of ICPS systems.	Mr Colombo	5	spring

NATURAL SCIENCES (required language level B2) MASTER LEVEL Master of 'Applied Life Sciences' and Master of Technology of Circular Economy	 Description	Lecturer	CP / ECTS	Term
LECTURE: Recovery of Recyclable Materials	The students learn about processes for recovering valuable materials from industrial and other material streams as well as the application and optimization of these processes. In the form of a project, the students deepen what they have learned using an example process.	Mr. Hüpmeier	6	fall
LECTURE: Water Reuse	in process	Mr. Illing	6	fall
LECTURE: Site Remediation	Students receive information about typical chemical contamination of soil at industrial contaminated sites (e.g. PAHs, heavy metals, mineral oils). Soil samples are taken from former industrial sites, analyzed and evaluated	Mr. Walker	6	fall
LECTURE: Energies and Materials in Biotechnology	in process	Mr. de Vries	6	fall
LECTURE: Solid Waste and Recycling	in process	Mr. Habermann	6	spring
LECTURE: Biopolymers	The module consists of a lecture and a lab course. Students will learn to prepare, process and analyse biopolymers and understand their role in polymer industry.	Mr. Rüschen. Klaas	6	spring
LECTURE: Biodegradability and Environmental Impact	in process	Mrs. Gallert	6	spring
LECTURE: Fundamentals of Circular Economy	in process	Mr. Steinigeweg	6	spring
PROJECT: Circular Economy Project	Students are working in small groups on an interdisciplinary project in the field of Circular Economy Technology.	all lecturers	6	spring
LECTURE and LAB COURSE: Biocatalysis and Renewable Resources	The module provides an overview over biocatalytic methods for the non-energy use of renewable resources. Main point are reaction in non-aqueous media. In the lab the students carry out such a reaction themselves.	Mr Rüschen. Klaas	5	spring
LECTURE: Soft skills	in process	all lecturers	5	fall and spring
LECTURE: Soil analysis	in process	Mr Walker	5	fall
LECTURE: Development of Sustainable Chemical Processes and Intensification of Biotechnical Processes	Fundamentals of processes intensification, intensification of mass transport, intensification of heat transport, coupling of reaction and processing, optimization of circulation systems, modeling of integrated processes, examples (e.g. reative rectification, microreaction technology). Sustainability assessment of industrial processes (chemical and biotechnological)	Mr. Steinigeweg and Mr. Scharfenberg	3 each	spring
LECTURE: Scientific Computing	Introduction to the fields of scientific computing, modelling and simulation, programming with Matlab/Octave, implementation of numerical models from the fields of natural sciences and technology.	Mr. Herráez	5	spring
LECTURE: Introduction to Cell Biology	Introduction to the concept of life, the difference between prokaryotic and eukaryotic cells, the different compartments in an eukaryotic cell and their functions.	Mrs. Reimer	5	spring
LECTURE: Environmental Microbiology	The module provides an overview about microbial parameters determining bathing water quality in theory and after sampling from a defined bathing area also in the lab.	Mrs. Gallert	5	spring
LECTURE & PROJECT: Chemical Reactor Modeling	Basic design of chemical reactors and equations for mathematical modelling. Students complete a modeling project using Matlab/Simulink.	Mr. Hüpmeier	5	fall
LECTURE: Water and Waste Water	in process	Mr Habermann	5	fall

BUSINESS STUDIES in cooperation with department of MECHANICAL ENGINEERING (required language level B2) BACHELOR LEVEL Subject to change /status March 2024	Lecturer	CP / ECTS	Term (Semester)
LECTURE: ERP – Systems (Enterprise-50:60Resource-Planning Systems e.g. SAP)*	Mr Ihnen	5	fall (5,7)
LECTURE: International Management for SMEs*	Ms Alvares-Wegner	5	fall (5)
LECTURE: International Strategic Leadership (Master)*	Ms Alvares - Wegner	5	fall (3)
SEMINAR: Digital Marketing* Prerequisites: Sufficient knowledge of English and basic knowledge of marketing is required	Mr Hummels	5	fall (5)
LECTURE: Project Management*	Mr. Passenheim	5	fall (5)
BLOCK SEMINAR: Green Economy & Digital Innovation	Ms Wolf	5	fall (5)
LECTURE: Financial Instrument Accounting	Mr. Henkel	5	fall (5)
LECTURE: Logistics and Supply Chain Management	Mr. Wessels	5	fall (5)
LECTURE: Sustainability Consulting	Mrs Wolf	5	fall (5)
LECTURE: Organisation & Human Resources* Prerequisites: sufficient knowledge in Marketing, Management and/or HR	Mr. Passenheim	5	spring (6)
LECTURE: Communication & Presentation Skills*	Ms Alvares- Wegner	5	spring (4)
LECTURE: Sustainability Management*	Mrs Wolf	5	spring (4)
LECTURE: Crisis Management in International Mergers and Acquisitions* Prerequisites: Sufficient knowledge of English and good basis in general management theory required	Ms Alvares-Wegner	5	spring (4,6)
LECTURE: International Marketing	Mr. Hummels	5	spring (4,6)
Block Seminar: Entrepreneurship	Fischer	5	spring (4,6)
LECTURE: Management Control Systems (Master)	Mr. Wilken	5	spring (2)
LECTURE: International Human Ressource Management* Prerequisites: sufficient knowledge of English; good written and oral communication skills and basic knowledge of management required	Ms Alvares-Wegner	5	spring (4,6)
* Please check language and knowledge prerequisites for the marked business lectures in cooperation with the Faculty of Business Studies here: https://www.hs-empden-leer.de/en/faculties/wirtschaft/studies/international-faculty-office-for-business-studies/english-programme/			

Faculty of Social Work and Health

ENGLISH lectures & projects Academic Year 2024/2025

SOCIAL WORK (required language level B2) BACHELOR LEVEL Subject to change /status March 2024	Description	Lecturer	CP / ECTS	Term (Semester)
LECTURE: Pros and Cons of a foster care system with non-professionals or lay persons	The workshop will start with an input about the legal context of the youth care system in Germany. We will take a closer look on fostering as substantial part of the social services for child protection. We will examine the (dis-) advantages of foster care by non-professionals and reflect the support possibilities on the part of the social work professionals.	Mrs. Mejia	3	spring (4/6)
LECTURE: Non-violent communication	Enhance your social work practice by enrolling in our Nonviolent Communication course, where you will delve into practical techniques for building bridges of understanding and addressing conflicts without resorting to aggression. Acquire valuable insights that will empower you to communicate compassionately and contribute meaningfully to building a more empathetic and just society.	Mrs. Scheumann	3	spring (4/6)
LECTURE: Press and Public Relations in Social , Education and Health Sectors	Press and publish relations work is an important element in order to be visible as a social institution and to be perceived with one's own profile. The course provides basic knowledge of effective public relations in the social sector. This seminar will be offered online.	Mrs. Segebade-Mittmann	2	spring (4/6)
LECTURE: International University Week	The University of Applied Sciences Emden/Leer is a member of SocNet98, a network of Faculties of Social Work/Social Pedagogics in Europe. Together with local students, you have the opportunity to participate in the annual International University Week of SocNet98 in Emden.	Mrs. Hübner	3	spring (2/4/6)
LECTURE / PROJECT: Project development and practice	Short introduction into the system of social services in Germany. Short introduction into project management. Weekly practice day in a social service. If applicable: Development and implementation of a project offered in the social service.	Mr. Bunk	4	spring (4/6)
LECTURE: Potential traumatic life events and health across the life course	Potential traumatic life events (PTE) have an impact on (mental) health. The specific aims of this course are: 1) to define potentially traumatic life events and get to know ways of describing PTEs; 2) identify the impact of PTEs on different population groups and identify vulnerable groups; 3) recognize and identify trajectories of health impacts; 4) get to know inter-vention models to mitigate the impact of traumatic life events on health of the population in general and on health of vulnerable groups.	Mrs. Jutta Lindert	3	spring
LECTURE: Creative Writing	„Fiction gives us empathy: it puts us inside the minds of other people, gives us the gifts of seeing the world through their eyes. Fiction is a lie that tells us true things, over and over“, said Neil Gaiman and explains at the same time why creative writing is a good companion if you work in a social institution (and if you want to do something good for yourself). You will learn on a practice-based method how writing works and how and why writing can be used in social work.	Mrs. Segebade-Mittmann	2	spring
LECTURE: German Language Course	German language courses incl. Grammar Level: Beginner and Advanced level	N.N. (IO)	5	spring (4/6)

Faculty of Maritime Sciences (location: Leer)

ENGLISH lectures & projects
Academic Year 2024/2025

MARITIME SCIENCES (required language level B2) BACHELOR LEVEL Subject to change /status March 2024	Study course	Lecturer	CP / ECTS	Term (Semester)
LECTURE: Basics of Nautical Science: Part 1 (Professional Practice), Part 2 (Maritime Project), Part 3 (Maritime Law)	Nautical Science and Maritime Transport (NSMT)	Ms Beelmann/Mr Vahs/Mr Münchau	10	spring (1)
LECTURE: Mathematics 1 (Linear Algebra)	Nautical Science and Maritime Transport (NSMT)	Mr Plawenn-Salvini	5	spring (1)
LECTURE: Physics	Nautical Science and Maritime Transport (NSMT)	Mr. Göken	5	spring (1)
LECTURE: Navigation 1 (Classical Navigation)	Nautical Science and Maritime Transport (NSMT)	Ms Knoop	5	spring (1)
LECTURE: Meteorology	Nautical Science and Maritime Transport (NSMT)	Mr Göken	5	spring (3)
LECTURE: Ship Theory	Nautical Science and Maritime Transport (NSMT)	NN	5	spring (3)
LECTURE: System Monitoring	Nautical Science and Maritime Transport (NSMT)	Mr Meyer	5	spring (3)
LECTURE: Computer Science	Nautical Science and Maritime Transport (NSMT)	Mr. Bentin/Mr. Ostrowitzki	5	spring (3)
LECTURE: Business Administration	Nautical Science and Maritime Transport (NSMT)	Mr Heilmann	5	spring (3)
LECTURE: Mathematics 2 (Analysis)	Nautical Science and Maritime Transport (NSMT)	Mr Göken	5	spring (3)
LECTURE: Navigation 2 (I) Techn. Navigation 1 + Radar Technology*	Nautical Science and Maritime Transport (NSMT)	Ms Knoop/Mr. Plawenn-Salvini	5	fall (4)
LECTURE: Watchkeeping*	Nautical Science and Maritime Transport (NSMT)	Mr. Plawenn - Salvini	5	fall (4)
LECTURE: Human Resource Management	Nautical Science and Maritime Transport (NSMT)	Ms Beelmann	5	fall (4)
LECTURE: Maritime English	Nautical Science and Maritime Transport (NSMT)	Mrs. Walden	5	fall (4)
LECTURE: Medical Care	Nautical Science and Maritime Transport (NSMT)	Ms Winther	5	fall (4)
LECTURE: Navigation 2 (II) Astro Navigation + Techn. Nav. 2 + ECDIS*	Nautical Science and Maritime Transport (NSMT)	Ms Knoop/Mr. Plawenn-Salvini	10	spring (5)
LECTURE: Dangerous Goods*	Nautical Science and Maritime Transport (NSMT)	Mr. Kreutzer	5	spring (5)
LECTURE: Cargo Operation and Planning*	Nautical Science and Maritime Transport (NSMT)	NN	5	spring (5)
LECTURE: Maritime Law	Nautical Science and Maritime Transport (NSMT)	Mr. Münchau	5	spring (5)
LECTURE: Energy Efficient Ship Handling	Nautical Science and Maritime Transport (NSMT)	Mr. Vahs	5	spring (5)
LECTURE: GMDSS*	Nautical Science and Maritime Transport (NSMT)	Ms Woltron	6	fall (6)
LECTURE: Manoeuvring *	Nautical Science and Maritime Transport (NSMT)	Mr. Vahs	5	fall (6)
LECTURE: Safety and Emergency Management *	Nautical Science and Maritime Transport (NSMT)	Ms Woltron	7	fall (6)
LECTURE: Cargo Care *	Nautical Science and Maritime Transport (NSMT)	NN	5	fall (6)
*Prerequisite: 6 months on board training prior to exchange semester				

Faculty of Maritime Sciences (location: Leer)

ENGLISH lectures & projects
Academic Year 2024/25

MARITIME SCIENCES (required language level B2) BACHELOR LEVEL Subject to change /status March 2024	Study course	Lecturer	CP / ECTS	Term (Semester)
LECTURE: Environmental and Energy Management	Maritime Technology and Shipping Management (MTSM)	Mr. Strybny	5	spring term (6)
LECTURE: Ship Handling 3	Maritime Technology and Shipping Management (MTSM)	Mr. Plawenn-Salvini	5	spring term (6)
LECTURE: Ship Design and Strength Calculations	Maritime Technology and Shipping Management (MTSM)	Mr. Bentin	5	spring term (6)
LECTURE: Ship Propulsion and Operating Systems	Maritime Technology and Shipping Management (MTSM)	Mr. Meyer	5	spring term (6)
LECTURE: Materials Science	Maritime Technology and Shipping Management (MTSM)	Mr. Göken	5	spring term (6)
LECTURE: Maritime Economics	Maritime Technology and Shipping Management (MTSM)	Mr. Heilmann	5	spring term (6)
LECTURE: Contract Drafting and Contract Management	Maritime Technology and Shipping Management (MTSM)	Mr. Münchau	5	spring term (6)
LECTURE: Business Communication	Maritime Technology and Shipping Management (MTSM)	Ms Walden	5	fall term (7)
LECTURE: Ocean and Hydraulic Engineering	Maritime Technology and Shipping Management (MTSM)	Mr. Strybny	5	fall term (7)
LECTURE: Strategic Shipping Company Management	Maritime Technology and Shipping Management (MTSM)	Mr. Heilmann	5	fall term (7)