

## Catalogue of courses offered in English - WiSe 2022/23

Dear exchange students,

This catalogue contains the descriptions of the elective courses conducted in English at Nuremberg Tech in winter semester 2022/23. The courses included in this catalogue are open for all exchange students regardless of the degree programme you are enrolled in at our university. You can participate in any course you are interested in as long as you meet the mentioned prerequisites. Attending these courses can develop not only your academic knowledge, but as they are interdisciplinary and many of them are open to all types of students, you will gain experience in a truly diverse environment. We hope you find some interesting options for this semester in Nuremberg in addition to the courses from our Language Center and the regular courses in your degree programme. Have a look - it's worth your while! If you have any questions about the courses you can take, please contact the coordinator of this catalogue Rebecca Ehrig at [rebecca.ehrig@th-nuernberg.de](mailto:rebecca.ehrig@th-nuernberg.de).

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## Advanced Computational Fluid Dynamics

Course name	<b>Advanced Computational Fluid Dynamics</b>
Learning objectives	After successful completion of the module, students should be able to name the conservation equations underlying numerical fluid mechanics and explain the meaning of individual terms; to name the procedures used in numerical flow simulation for discretisation, grid generation, and turbulence modelling, explain them together with their respective advantages and disadvantages and use them correctly depending on the application; to operate a CFD program in a target-oriented manner; to critically evaluate the results of flow simulations; to conduct their own simulations in such a way that high-quality results are produced.
Content	Derivation of the conservation equations in integral and differential form. Work flow of Computational Fluid Dynamics (CFD). Discretisation methods. Boundary conditions. Computational grid. Presentation of CFD results. Validation of simulation results. Turbulence modelling. Processing of a typical application-oriented task with CFD.
Other requirements/information	Lecture with students from the master's programme in Chemical Process Engineering and Process Technology. Students should know contents and have competences in the following or similar fields at bachelor's level: fundamentals of numerical mathematics, fundamentals of heat and mass transfer, fluid mechanics, fundamentals of thermodynamics, process and energy engineering apparatus and plants.
Course format	Seminar-style lecture, exercises (in computer lab)
Credits (ECTS)	5
Lecture hours (LVS)	4
Type of assessment	Written examination, paper

## Area Studies- Doing Business in China (3 ECTS)

Course name	<b>Area Studies - Doing Business in China (3 ECTS)</b>
Learning objectives	In the past few decades China has developed into one of the most powerful national economies in the world and has thus expanded its social and political influence not only in Asia, but also worldwide. For Europe, China is one of the most important cooperation partners in many areas, but at the same time it is also a serious competitor and rival in other areas. Knowing and understanding China is therefore

	<p>becoming a crucial competence for all responsible actors in our society.</p> <p>This course will equip students with foundational knowledge about the history and culture as well as the recent political and economic development in China. One of the focus areas will be the changing role of China in the world economy during the globalization/deglobalization process. Another focus area is to gain insight into different business and inter-cultural aspects when doing business in and with China. Group discussions will help the students apply their new knowledge in order to efficiently develop their competence. On successful completion of this unit, the students should:</p> <ul style="list-style-type: none"> <li>- know the historical background and the current political and economic system of the country</li> <li>- understand the international positioning of the country in a globalized business environment</li> <li>- be able to assess country-specific opportunities and risks for international and local companies when doing business in and with the country</li> <li>- be able to demonstrate how regional culture impacts business and management practice</li> <li>- be able to work or conduct business with local people both in the country/region and internationally</li> <li>- be able to correctly apply subject-specific English terminology/vocabulary</li> </ul>
Content	<p>Introduction and historical background of the country</p> <ul style="list-style-type: none"> <li>- The current political system and recent societal development</li> <li>- National/regional economy and its international positioning</li> <li>- Economic relationship between the region and EU / Germany</li> <li>- How international companies operate in (e.g.) China</li> <li>- Strategic positioning and uniqueness of local companies</li> <li>- Regional culture and its influences on companies' strategic management frameworks and intercultural communication</li> <li>- Geographical scheme of the regional/country/area</li> </ul>
Other requirements/information	<p>Lecture together with students from different bachelor's programmes of the Faculty of Business Administration. Basic knowledge of business administration is required.</p> <p>There is a 3 ECTS and a 5 ECTS version of this course. Students can only take one of them.</p>
Course format	Seminar-style lecture
Credits (ECTS)	3
Lecture hours (LVS)	4
Type of assessment	Written examination (90 minutes)

## Area Studies- Doing Business in China (5 ECTS)

Course name	<b>Area Studies - Doing Business in China (5 ECTS)</b>
Learning objectives	<p>In the past few decades China has developed into one of the most powerful national economies in the world and has thus expanded its social and political influence not only in Asia, but also worldwide. For Europe, China is one of the most important cooperation partners in many areas, but at the same time it is also a serious competitor and rival in other areas. Knowing and understanding China is therefore becoming a crucial competence for all responsible actors in our society.</p> <p>This course will equip students with foundational knowledge about the history and culture as well as the recent political and economic development in China. One of the focus areas will be the changing role of China in the world economy during the globalization/deglobalization process. Another focus area is to gain insight into different business and inter-cultural aspects when doing business in and with China. Group discussions will help the students apply their new knowledge in order to efficiently develop their competence. On successful completion of this unit, the students should:</p> <ul style="list-style-type: none"> <li>- know the historical background and the current political and economic system of the country</li> <li>- understand the international positioning of the country in a globalized business environment</li> <li>- be able to assess country-specific opportunities and risks for international and local companies when doing business in and with the country</li> <li>- be able to demonstrate how regional culture impacts business and management practice</li> <li>- be able to work or conduct business with local people both in the country/region and internationally</li> <li>- be able to correctly apply subject-specific English terminology/vocabulary</li> </ul>
Content	<p>Introduction and historical background of the country</p> <ul style="list-style-type: none"> <li>- The current political system and recent societal development</li> <li>- National/regional economy and its international positioning</li> <li>- Economic relationship between the region and EU / Germany</li> <li>- How international companies operate in (e.g.) China</li> <li>- Strategic positioning and uniqueness of local companies</li> <li>- Regional culture and its influences on companies' strategic management frameworks and intercultural communication</li> <li>- Geographical scheme of the regional/country/area</li> </ul>

Other requirements/information	Lecture together with students from different bachelor's programmes of the Faculty of Business Administration. Basic knowledge of business administration is required. There is a 3 ECTS and a 5 ECTS version of this course. Students can only take one of them.
Course format	Seminar-style lecture
Credits (ECTS)	5
Lecture hours (LVS)	4
Type of assessment	Written examination (90 minutes), case study presentation

## Chemistry and the Energy Transition

Course name	<b>Chemistry and the Energy Transition</b>
Learning objectives	Students will be introduced to modern methods of electrical and chemical energy generation, conversion, and storage. In the course, the current methods for energy generation, energy conversion, and energy storage are to be presented as practically as possible. These are exclusively sustainable processes and methods of electrochemistry, process engineering, electrical engineering, and biochemistry. The energy transition that was started can only be successfully continued and completed if the various methods of energy generation, storage, and conversion are optimally coupled and interlinked. Therefore, one of the main goals of the course is to understand the interconnection of the different topics. One way to achieve this goal is the detailed, comparative considerations of the different methods of energy generation, energy conversion, and energy storage as presented in the current script.
Content	<ol style="list-style-type: none"> <li>1. Gasoline vs. Diesel Engine: Avoidance of Harmful Exhaust Gases - detoxification of harmful exhaust gases, detailed description of the effect of AdBlue</li> <li>2. Hydrogen Economy - production of green hydrogen, hydrogen as means of energy storage, hydrogen fuel cell (PEMFC) as energy converter and propulsion in vehicles</li> <li>3. Methanol Economy - synthesis of green methanol, direct methanol fuel cell (DMFC) as drive medium in vehicles, detailed comparison of PEMFC and DMFC</li> <li>4. Methane Economy - production of green methane: details of the mechanism of anaerobic digestion of agricultural residues in biogas plants</li> </ol>

	<p>5. Electrochemical Conversions as Basis of Electromobility - details on the conversions "electrical to chemical" (electrolytic cell) and "chemical to electrical" energy (galvanic cell) in primary and secondary batteries, lithium-ion-cells as the basis of electromobility</p> <p>6. Renewable Resources - first and second generation biofuels, sustainable biodiesel, bio-ethanol, e-fuels as a group of XtL fuels</p> <p>7. Use of Solar Energy: Solar Thermal and Photovoltaic - presentation of the most important methods of solar thermal and coupling with other heating systems. Photovoltaic: functioning of silicon solar cells in the framework of the photoelectric effect.</p> <p>8. Use of Wind Energy for Electricity Generation - physics of wind energy and efficiency of wind turbines, comparison of the different ways of storing wind energy</p>
Other requirements/information	A basic understanding of simple redox reactions is required to understand the subject matter.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Written examination (60 minutes)

## Climate Change-Changing Economy

Course name	<b>Climate Change - Changing Economy</b>
Learning objectives	Students will be familiar with the basics of climate change and its implications for the economy and society. Students will become more aware of potential political and economic reactions to climate change. The economic changes resulting from climate change will be discussed.
Content	<ul style="list-style-type: none"> <li>- Climate relevant gases in the atmosphere and relevant legalities</li> <li>- Anthropogenic emissions and their influence on the climate</li> <li>- Potential of technical developments: Energy supply, energy efficiency, CO<sub>2</sub> storage, and adaptation to climate change</li> <li>- Political frameworks and economic change: International agreements, emissions law, product carbon footprint.</li> </ul>
Other requirements/information	
Course format	Seminar-style lecture
Credits (ECTS)	2

Lecture hours (LVS)	2
Type of assessment	Written examination (90 minutes)

## Computer Science

Course name	<b>Computer Science</b>
Learning objectives	<ul style="list-style-type: none"> <li>- Basic understanding of algorithms and software engineering</li> <li>- Knowledge about the formalism and utilisation of a high level computer language</li> <li>- Ability in programming distinct tasks</li> <li>- Ability to analyse, understand, and modify simple given computer programs</li> <li>- Knowledge of English computer science terminology</li> </ul>
Content	<ul style="list-style-type: none"> <li>- Algorithms in computer science</li> <li>- Numeral systems and information coding</li> <li>- The program development process, problem analysis, algorithm development, and implementation in a computer language</li> <li>- Programming Python, computing platforms, and Python's development environment</li> <li>- The principle structure of Python programs, variables, operators, key words, expressions, functions and procedures, modules, errors, and debugging</li> <li>- Object-oriented programming, classes, and methods</li> <li>- Programming event-driven flows of operation</li> <li>- Practical work with the computer</li> </ul>
Other requirements/information	The course is designed for engineering students, previous knowledge is not necessary.
Course format	<ul style="list-style-type: none"> <li>- Lecture</li> <li>- Exercises at the computer</li> <li>- Supported self-learning</li> </ul>
Credits (ECTS)	5
Lecture hours (LVS)	4
Type of assessment	Written examination (90 minutes)

## Electromagnetic Compatibility (EMC) in Practice

Course name	<b>Electromagnetic Compatibility (EMC) in Practice</b>
Learning objectives	Basic knowledge of electromagnetic compatibility (EMC). This includes the basic knowledge of international standards and the phenomena which are covered by them. A main goal

	of this lecture is the EMC-conform development of electronic devices. This includes the design of shielding, the layout of printed circuit boards, and the use and design of EMC filters.
Content	<p>The lecture includes the following topics</p> <ul style="list-style-type: none"> <li>- International standards for EMC: The international standards for consumer products will be addressed. We will discuss the phenomena behind the standards and where they occur in normal life.</li> <li>- Test procedures according to international standards: Most of the tests will be set up during the lectures. We will learn how to use the test equipment and we will discuss how to improve the devices under test in the case that they cannot pass the test.</li> <li>- How to develop electronic devices: The lecture will provide EMC know-how, how to realize good shielding, how to identify a good EMC-compliant PCB (printed circuit board) layout. The use of EMC filters will also be considered. Experiments related to all of these topics will be covered, to allow participants to test good and bad EMC designs.</li> </ul>
Other requirements/information	Electromagnetic compatibility is increasingly important for our life with advancing technology because EMC ensures that devices will not disturb each other by electromagnetic waves. Basic electrotechnics or physics knowledge is necessary for this lecture. Previous knowledge about EMC is not required.
Course format	Seminar-style lecture combined with experiments and practical demonstrations
Credits (ECTS)	5
Lecture hours (LVS)	4
Type of assessment	Written examination (90 minutes)

## Introduction to Excel and VBA in Science and Engineering

Course name	<b>Introduction to Excel and VBA in Science and Engineering</b>
Learning objectives	<p>In this course, students will be enabled to phrase mathematic formulations from scientific or technical problems, define an approach for a solution as an algorithm, and solve the algorithm with help of Excel and the VBA programming language.</p> <p>After successful completion of the course, students will be able to</p> <ul style="list-style-type: none"> <li>- use Excel spreadsheets efficiently to solve scientific and engineering problems</li> <li>- use VBA to extend the features of Excel according the requirements of typical scientific and engineering tasks</li> </ul>



	<ul style="list-style-type: none"> <li>- use VBA to improve efficiency and re-usability of spreadsheets for solutions in their own fields of study</li> <li>- analyse quantitative measurement data with appropriate numerical methods, find appropriate mathematic models, and evaluate the models</li> <li>- solve non-linear equations numerically with help of Excel and/or VBA</li> </ul>
Content	Spreadsheet calculation with Excel; relative and absolute cell references; scientific diagrams; general mathematic and statistic Excel functions; user-defined functions in VBA; linear regression; nonlinear regression; modifying Excel spreadsheets with VBA; solving non-linear equations with numerical methods in Excel and/or VBA
Other requirements/information	This course is designed for students in natural sciences and engineering fields.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Written examination (60 minutes)

## Global Software Engineering

Course name	<b>Global Software Engineering</b>
Learning objectives	Integration of programming, software engineering, and project management with intercultural skills to plan, analyse, design, and develop a global software project.
Content	Students work together with project partners from a university in another country on a real-time simulation of a global software engineering project.
Other requirements/information	Master's level for information systems, computer science, media computer science Prerequisites: English, programming, software engineering, project management. This class is conducted entirely in English.
Course format	Seminar-style lecture
Credits (ECTS)	5
Lecture hours (LVS)	4
Type of assessment	Project presentation and written report

## Introduction to Human Rights

Course name	<b>Introduction to Human Rights</b>
Learning objectives	Students will gain an overview of the history of human rights, their main philosophical concepts, and the content of the core human rights treaties. They will also acquire knowledge of the functions and relationships of international institutions in the field of human rights. They will develop professional competence based on respect, tolerance, self-reflection, and empathy.
Content	History and philosophical concepts of human rights The core human rights treaties International institutions Anti-bias approach and non-violent communication
Other requirements/information	This class will be taught in English and is open for incoming students as well as regular Nuremberg Tech students
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Oral and written examination (presentation and paper)

## Light Metals

Course name	<b>Light Metals</b>
Learning objectives	Metallic materials that have a density lower than steel are referred to as light metals or alloys. Such metals have particular and increasing importance in engineering, when lightweight construction is required. Especially in the automotive and aircraft industry, light metals are widely used. This course provides a basic understanding of the three main alloy systems in that field, aluminium, titanium, and magnesium alloys. The physical metallurgy of the materials as well as typical processing routes and applications are covered in the course.
Content	After general considerations on materials for lightweight construction, the course teaches basic knowledge for the most common alloys of that materials class. These are wrought aluminium (Al) alloys, cast Al alloys, titanium alloys, and magnesium alloys. For these materials, an introduction into specific aspects of their physical metallurgy is presented and correlated to resulting properties and microstructures. Furthermore, typical ways to process these materials and their main fields of applications are covered.

Other requirements/information	Light Metals is meant to give particular knowledge on metallic materials for lightweight applications. Basic knowledge of materials science, physics, and chemistry is required. The course is designed to for undergraduate students of materials science and may also be appropriate for other fields of engineering related to mechanics and construction.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Written examination (90 minutes)

## Mathematics I

Course name	<b>Mathematics I</b>
Learning objectives	<ul style="list-style-type: none"> <li>- Recall and be able to apply basic mathematical notions, methods and tools.</li> <li>- Classify and extend mathematical problems in single variable calculus and linear algebra (vectors and matrices).</li> <li>- Demonstrate knowledge and understanding of basic differential and integral calculus, complex numbers, vectors and matrices and some more advanced techniques of calculus.</li> <li>- Explain and choose as well as apply fundamental mathematical techniques to solve problems related to economics and natural science.</li> <li>- Getting comprehensive knowledge about correct application of subject-specific terminologies and Vocabulary in English</li> </ul>
Content	<ol style="list-style-type: none"> <li>1. Functions (single variable)</li> <li>2. Complex numbers</li> <li>3. Vectors</li> <li>4. Linear algebra</li> <li>5. Differentiation of single variable functions</li> <li>6. Integrals of single variable functions</li> <li>7. Sequences, Taylor and power series</li> </ol>
Other requirements/information	Course is designed for engineering students. Students should be able to understand the basics of secondary school mathematics (algebra, calculus).
Course format	Seminar-style lecture
Credits (ECTS)	7
Lecture hours (LVS)	6 + 2 tutorial
Type of assessment	Written examination (90 minutes)

## Migration Politics

Course name	<b>Migration Politics</b>
Learning objectives	<p>The aim of the seminar is to acquire a thorough knowledge about migration politics in order to understand the current debate on immigration in an academic as well as practice-oriented manner. After the seminar, students will</p> <ul style="list-style-type: none"> <li>- ... be able to distinguish and compare developments of different phases of migration politics and policies and its historical context in Germany and Europe.</li> <li>- ... be able to identify consensus and discordancies about immigration politics among actors in national as well as the EU levels.</li> <li>- ... have gained knowledge about the impact of immigration on politics and the emergence of new actors and their stances on the topic.</li> <li>- ... have gained knowledge about the integration of refugees and migrants, public opinion, diversity, and perspectives for the future.</li> <li>- ... be able to describe central theoretical strands of flight, migration (push and pull factors), and causes of the current flight and immigration flows.</li> </ul>
Content	<p>To achieve these goals, the seminar is divided into three central parts:</p> <ol style="list-style-type: none"> <li>1. Overview To explain the current issues and debate related to asylum and immigration policies, this part explores and classifies the immigration developments and policy changes in the last few decades. It provides insight to better grasp the current debate and understand how and which factors have shaped migration policies and gradually liberalised citizenship laws. In doing so, the EU's role, migrants' perspectives, and their social situation will also be considered.</li> <li>2. The current state of affairs This part covers various aspects of the debate on immigration, integration, citizenship law, identity, and ethno-cultural diversity. The actors of the current debate and their interests, public opinion, and perspective for the future will be differentiated and classified. Challenges and opportunities posed by migration will be discussed and scrutinized.</li> <li>3. Push and pull factors: This part provides theoretical knowledge about and empirical evidence of the reasons for mobility and immobility in today's world and shed light on the current situation of flight and asylum in Europe as well as Germany.</li> </ol>

Other requirements/information	General for all students of all Faculties. This course will be held in English (students can write their term papers in English or German).
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Paper, presentation

## Nuclear and (Elementary) Particle Physics

Course name	<b>Nuclear and (Elementary) Particle Physics</b>
Learning objectives	<p>Students will:</p> <ol style="list-style-type: none"> <li>1. Obtain an overview of historical experimental findings in the characterisation of the structure of microscopic matter and the corresponding theories and models.</li> <li>2. Be able to recapitulate the path from classic atomic physics to modern physics (i.e., quantum mechanical description of microscopic matter).</li> <li>3. Gain an overview of the theoretical tools involved in the description of atoms, nuclei, and their substructures and be able to apply these tools for qualitative interpretation and quantitative estimates.</li> <li>4. Gain an overview on the experimental tools involved in the disclosure of atomic and nuclear substructures and elementary particles.</li> <li>5. Obtain understanding of nuclear (in)stability and (simple) nuclear models.</li> <li>6. Obtain understanding of elementary particles and their interaction.</li> <li>7. Be able to transfer the knowledge from basic research (i.e., above items 1 to 6) to technical applications.</li> </ol>
Content	<p>Based on the objectives from above the contents are as follows:</p> <ol style="list-style-type: none"> <li>1. Concepts from Greek philosophers, studies in the course of the alchemy period, findings from chemistry, thermodynamics, and their statistical interpretation, Planck's theory of black body radiation and Einstein's theoretical explanation of the photo effect, Curie's discovery of radioactivity, Thomson's discovery of the electron and his plum pudding atomic model, Rutherford's ground-breaking scattering experiment.</li> <li>2. Contradictions of Rutherford's atomic model with experimental results, Bohr's quantisation of angular momentum, de Broglie's matter waves, inclusion of the measurement process in atomic theory.</li> </ol>

	<p>3. Basic ideas and formulations of Schrödinger's and Heisenberg's Quantum Mechanics, Einstein's Special Relativity Theory, introduction of the cross section to describe reactions of microscopic structures.</p> <p>4. Production of high energy particle beams by means of accelerators and detection of particles from microscopic reactions by means of detectors.</p> <p>5. Nuclear stability diagram, types and nature of nuclear decays, mass deficiency, nuclear droplet model and Bethe-Weizsäcker mass formula, Fermi gas model and extension to more refined nuclear potentials, the nucleon-nucleon-model, and Yukawa's model for the strong nuclear force.</p> <p>6. Discovery of the "zoo of elementary particles", Salam's and Weinberg's quark-parton-model, the Standard Model of elementary particles and their basic interactions</p> <p>7. Introduction to technical applications such as reactors and power plants for nuclear energy production, medical radiation therapy, or radioactive age determination.</p>
Other requirements/information	Students should have basic knowledge in classical mechanics, thermodynamics, electromagnetic waves, and atomic physics.
Course format	Seminar-style lecture
Credits (ECTS)	4
Lecture hours (LVS)	3
Type of assessment	Oral and written examination (presentation + paper)

## Photojournalism

Course name	<b>Photojournalism</b>
Learning objectives	In the photojournalism course, students will learn the basics of manual photography.
Content	<p>The basics of manual photography are explained and practiced.</p> <p>Furthermore, the basics of design theory are discussed and practiced. The results are discussed together on a weekly basis.</p> <p>The conclusion of this seminar is a thematic work in which a series on a given topic is developed. The final photo series will reflect the contents presented in the course.</p> <p>In addition, sample images will be shown and an excursion to a design museum/photo exhibition is planned.</p>
Other requirements/information	The course is designed for participants who are interested in photography and does not require any prior knowledge.

	It would make sense to have a camera that can be adjusted manually. A smartphone is not adequate equipment for the course. Note: Cameras can be borrowed from the university.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Photographic compositions; final submission of a photo series

## Research Methods for Engineers

Course name	<b>Research Methods for Engineers</b>
Learning objectives	<p>This course will provide you with a solid foundation of methods to conduct research and scientific projects. The course will enable you to identify different methods and techniques and offer you the opportunity to test them in a group assignment. You will practice working with literature references, presenting your results, and communicating your conclusions. You will be able to put concepts and methods into practice and train for realistic situations.</p> <p>Through this course you will be enabled to develop important future skills such as critical thinking, reasoning, problem solving, analytical thinking, and creativity.</p>
Content	<p>Procedures, methods, and techniques that can be applied in scientific projects.</p> <p>Learn to organize your ideas, manage your project, and increase efficiency.</p> <p>Learn to collaborate and work on team assignments.</p> <p>Understand how to interpret your results and communicate them.</p>
Other requirements/information	Course is designed for engineering students.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Presentation

## Introduction to SAP ERP

Course name	<b>Introduction to SAP ERP</b>
Learning objectives	In the course students learn the basic technical-organizational concepts of an integrated enterprise resource planning system (ERP system) using the example of SAP ERP based on SAP HANA. This will enable them to understand and evaluate the possible uses and development of such systems in a business context. After completing this course, students will be able to name and explain the basic principles and significance of the in-memory database SAP HANA for companies.
Content	<ul style="list-style-type: none"> <li>- SAP History</li> <li>- Introduction to SAP ERP</li> <li>- SOA Technology and SAP Netweaver</li> <li>- SAP Business Suite</li> <li>- SAP User Interface</li> <li>- SAP NetWeaver Application Server with ABAP and Java</li> <li>- SAP components</li> <li>- SAP System Administration</li> <li>- SAP Workflow and Document Management</li> <li>- ABAP/4 programming environment</li> <li>- SAP HANA as an in-memory database platform</li> <li>- SAP S/4 HANA based on the SAP HANA platform as a next-generation real-time ERP business suite (digital transformation)</li> </ul> <p>Students will be able to</p> <ul style="list-style-type: none"> <li>- explain the basic technology and architecture of the SAP ERP system.</li> <li>- explain the functionality of SAP HANA.</li> <li>- understand the technical-organizational relationships between the basic system and the subject-specific application modules.</li> <li>- plan and implement practical tasks within the scope of system administration.</li> <li>- demonstrate current development of SAP ERP systems.</li> </ul>
Other requirements/information	Students of all disciplines interested in the use of enterprise software SAP ERP. No previous knowledge is necessary.
Course format	Seminar-style lecture
Credits (ECTS)	2
Lecture hours (LVS)	2
Type of assessment	Oral examination



## Social Entrepreneurship Cases: Analysing Social Businesses

Course name	<b>Social Entrepreneurship Cases: Analysing Social Businesses</b>
Learning objectives	<p>In this seminar we will analyse business models of social businesses (i.e., emerging and existing companies with social and/or ecological objectives), in order to discuss challenges and success factors. After completing the module, you will be able to critically evaluate and develop business models with social and ecological effects.</p> <p>During the seminar you will acquire an understanding of the elements of a business model with socio-ecological goals. You will have the skill to identify the elements of a business model for an existing social business. In addition, you will be able to critically evaluate what constitutes a successful business model with economic and socio-ecological goals. Finally, you will acquire the skills to independently develop existing business models.</p>
Content	<p>The character of the seminar is based on intensive interaction between participants through critical discussions.</p> <p>The content of the seminar will be the analysis of socially and ecologically oriented business models, the target audience analysis of social businesses, the theory of change, impact measurement, and the scaling of social start-ups / social enterprises.</p> <p>The seminar is structured in three sections: (1) Interactive introduction to the analysis of socio-ecological business models, (2) Analysis of existing social business cases by the students, (3) Development of their own social business case.</p>
Other requirements/information	Previous knowledge is not necessary for this seminar. An affinity for interactive and reflective work as well as a basic interest in social business are required.
Course format	Seminar
Credits (ECTS)	6
Lecture hours (LVS)	4
Type of assessment	Participation, 2 presentations, and a final paper

## “What’s the fuss about Gender?” - Introduction to Gender Studies

Course name	<b>“What’s the fuss about Gender?” - Introduction to Gender Studies</b>
Learning objectives	Despite the fuss about it in (social) media and politics, many of us do not necessarily know if we feel concern about gender, and consequently, we know little about how to frame and approach new and ongoing debates. In this course, we

	will take first steps toward understanding and exploring how gender shapes our world.
Content	This course serves as an introduction to gender itself —as a social/cultural construct, as a mode of expression (performativity), and as a critical lens through which we can better understand the world around us. During the semester, we will get acquainted with the field of gender studies as practiced across a range of academic disciplines. We will consider the ways in which gender is produced and performed at the intersection of culture, politics, and the body, always in tandem with other categories of difference such as race, sexuality, and economic class. We will ask how institutions like the government, the workplace, and the family interact with gender. We will contemplate the ways in which ideology (systems of ideas and knowledge) and representation (portrayals in media, political discourse, and everyday life) shape our understanding of gender and how it is produced and reproduced by taking up current (public) debates and conversations (e.g., #metoo movement, abortion rights, LGBTQ+). Rather than assuming that binaries like masculine/feminine, queer/straight, or transgender/cisgender are stable or static concepts, we will work toward understanding how their meanings change over time and space, and how they relate to the broader context of gender in the world today.
Other requirements/information	<p>There are no prerequisites to taking part in this course. Students from all academic disciplines are explicitly encouraged to attend this course.</p> <p>We will discuss some politically and perhaps emotionally charged topics during the semester. Thus, we are called upon to approach these discussions with maturity, intellectual curiosity, emotional care, and an open mind.</p> <p>Basic expectation: read. Give yourself time to think about and process the readings. Take notes. Attend lecture and discussion sections. Participate. Think and process more.</p> <p>Assignments: Regular attendance in class, reading the assigned texts, sharing your responses to course material and ideas in class, oral presentation of chosen topic.</p>
Course format	Seminar-style lecture
Credits (ECTS)	3
Lecture hours (LVS)	2
Type of assessment	Reading the texts, participation, presentation