Preparatory seminar SHIFT Study Sprint RES

(Note: This is the English translation of the binding German-speaking module catalogue.)

Name of the preparatory seminar	SHIFT Study Sprint Renewable Energy Systems (preparatory seminar)
Certificate of attendance	Preparatory seminar for the Master Renewable Energy Systems
First start date	17 March 2025, annual start (subject to change until 2028)
Duration	15 weeks
Place of study	THI, Ingolstadt
Language of instruction	English
Admission requirements	Bachelor's degree and passing the selection procedure
Capacity	Max. 25 participants per year
Contact persons:	Professorship: Prof. Dr. Matthias Huber Management: SHIFT @ IO E-mail: shift@thi.de

Introduction

Objective

The SHIFT Study Sprint RES prepares prospective international students for the Renewable Energy Systems degree program and supports them with onboarding and integration at Ingolstadt University of Applied Sciences and in Ingolstadt.

Admission requirements

The admission requirements for the SHIFT Study Sprint RES are based on the admission requirements for the Master Renewable Energy Systems, as the participants of the SHIFT Study Sprint

should enrol for the Master Renewable Energy Systems at THI after successful participation in the SHIFT.

Target group

The SHIFT Study Sprint RES is aimed at prospective students from abroad who would like to study for a Master's degree in Renewable Energy System in the following winter semester and would therefore like to benefit from preparatory and support measures before starting their regular studies.

Structure

The SHIFT Study Sprint lasts 15 weeks. The arrangement of the courses offered is based on the position of the specialist modules in the corresponding Bachelor's degree program Energy Systems and Renewable Energies and the order of their importance in the study cycle.

Specialized electives

The compulsory academic electives are designed to prepare prospective students in the SHIFT preparatory seminar, who come to us at the THI from a variety of disciplines and degrees, intensively for their studies at the RES, acquiring all the necessary basic knowledge and brushing up on their technical English.

Requirements to continue onto Master´s Degree

The SHIFT Study Sprint RES lasts 15 weeks. It cannot be repeated. SHIFT participants are supported in their application for the Master's degree program Renewable Energy Systems (Master RES) (application deadline 2 May to 15 July each year). However, a separate application must be submitted. SHIFT participants are not automatically accepted onto the Master RES.

Description of the obligatory seminar contents

Attendance is compulsory for the following seminar courses. This is regularly documented.

Thermodynamics 1			
Module abbreviation:	**Language of instruction**	**Duration of module**	
	English	15 weeks	
Responsible for module:	Goldbrunner, Markus		
Lecturers:	Goldbrunner, Markus		
	Contact hours:		47 h

Workload:	Self-study:	78 h
	Total effort:	125 h

Lecture types:	SU/Ü/PR - seminar based teaching/Exercise course/laboratory (TD1_ESYS)

Recommended prerequisites:

None

Objectives:

The students

- know the properties of pure media (gases, liquids, homogenous mixtures) and the associated laws.
- are able to graphically represent and calculate changes of state of the model fluids "ideal gas" and "incompressible liquid" depending on the process control.
- are familiar with the laws of energy conversion (1st and 2nd law of thermodynamics)
- are able to describe the course of a thermodynamic process on the basis of the state variable entropy and to determine the energetic conversion quality of real state changes.
- can calculate and evaluate applied energetic single processes (compressor/turbine/heat exchanger).
- know the thermodynamic cycle processes of working and power machines and can thus make basic statements on the operating behavior of these machines.
- are familiar with the basics of phase transformation in multiphase systems using water as an example.

Content:

- Chapter 1: Fundamentals of Thermodynamics
- Chapter 2: Exchange and conservation of energy (1st law of thermodynamics)
- Chapter 3: Exchange and generation of entropy (2nd law of thermodynamics)
- Chapter 4: Changes of state of model fluids

Literature:

Compulsory:

- WHITMAN, Alan M., 2023 *Thermodynamics: Basic Principles and Engineering Applications*. 2nd edition. Cham: Springer International Publishing. ISBN 978-3-031-19538-9
- ÇENGEL, Yunus A., Michael A. BOLES and Mehmet KANOĞLU, 2024. *thermodynamics: an engineering approach*. t. edition. New York, NY: McGraw Hill. ISBN 978-1-266-15211-5, 1-266-15211-3
- PAUKEN, Michael, 2011 *Thermodynamics for dummies*. Hoboken, NJ: Wiley. ISBN 978-1-118-12098-9, 978-1-118-12100-9

Recommended:

- Will be announced in the lecture

Additional remarks:

None

Electrical Engineering

Module abbreviation:	Language of instruction	Duration of module	
	English	15 weeks	

Responsible for module:	Navarro Gevers, Daniel	
Lecturers:	Navarro Gevers, Daniel; Ndong, Massa	
Workload:	Contact hours:	47 h
	Self-study:	78 h
	Total effort:	125 h
Lecture types:	SU/Ü - lecture with integrated exercises (ETE_ESYS)	

Prerequisites according examination regulation:

None

Recommended prerequisites:

None

Objectives:

The students

- know and use specialist terminology confidently
- know the basic physical laws of electrical engineering and their connection
- know the boundary conditions of particular laws of physics
- are able to select the appropriate laws defining a given problem
- are proficient in calculations with appropriate units
- are proficient in methods calculating direct current and alternate current networks
- know the electrical field quantities and are able to calculate them
- know the magnetic field quantities and are able to calculate simple magnetic circuits
- know simple circuits with a transistor
- know basic circuits with an operational amplifier and are able to calculate those
- know measuring instruments for electric quantities and know their possible uses
- are able to familiarize themselves with subjects regarding electrical engineering self-reliant and within a team and are able to discuss these matters competently

Content:

- Direct current circuits: voltage, current, Ohm's law, energy, power, Kirchhoff's laws, Thevenin equivalent

• Norton equivalent circuit, series connection, parallel connection, maximum power transfer, calculation of networks • Electric field: electric field quantities, capacitance, energy in the electrostatic field, forces in the electrostatic field, switching operations • Magnetic field: magnetic field quantities, coil inductance, magnetic circuit, magnetic flux law, magnetic energy of the coil, forces in the magnetic field, induction law, self-induction, switching operations • Alternate current circuit: sinusoidal change of electric quantities, circuit analysis of alternate current networks using complex numbers, power • Semiconductors: diode, transistor, operational amplifier, basics of electric circuits; digital circuits • Measuring electrical quantities
Literature:
Compulsory: • HACKER, Viktor and Christof SUMEREDER, 2020 *Electrical engineering : fundamentals*. Munich; Vienna: De Gruyter Oldenbourg. ISBN 9783110521023 • KORIES, Ralf and Heinz SCHMIDT-WALTER, 2003 *Electrical Engineering : A Pocket Reference*. Berlin, Heidelberg: Springer. ISBN 978-3-540-43965-3 *Recommended:* • Further literature will be announced in the lecture.
Additional remarks:
None

Elective subjects

SHIFT Study Sprint RES participants choose one elective subject from the three elective subjects listed. A registration procedure is carried out beforehand.

- Energy Distribution and CHP Plants
- Energy Markets and Coupling Sectors
- Enegry Storage (energy storage)

Energy Distribution and CHP Plants			
Module attributes:	**Language of instruction**	**Duration of module**	
	English	15 Weeks	
Responsible for module:	Huber, Matthias		
Lecturers:	Huber, Matthias; Selleneit, Volker		
	Contact hours:		47 h

Workload:	Self-study:	78 h
	Total effort:	125 h
Lecture types:	SU/Ü/PR - seminar based teaching/Exercise course/laboratory (EnergDistCHPP_ESYS)	

Objectives:

The students

- gain extensive knowledge of CHP technology, its operation and economic influences, taking into account the relevant fuels
- are able to evaluate CHP plants as energy centers at different locations. They know their economic influencing variables, as well as the allocation methods to evaluate the CO2 reduction.
- learn about CHP technology as a plannable and flexible energy supply technology
- have an overview of the possibilities to distribute heat and cold
- they deal in depth with the topic of heat networks and are able to design them.
- gain knowledge about hydrogen as an energy carrier
- know the interactions between the different heat sources and the heat network (temperature levels) and their effect on operating costs as well as energy losses
- get an introduction into sector coupling energy system planning

Content:

CHP (electricity and heat supply by means of gas-fired CHP):

- CHP technology
- Efficiencies, influencing factors, utilization rates, efficiency
- CO2 reduction, allocation methods for CO2 reduction evaluation
- Cost structure: heat supply costs, electricity supply costs
- Operating modes: historical, current and future
- Efficient integration of CHP (heat and power) into the energy system
- Permitting aspects (exhaust emissions, installation site, noise)
- Legal framework for CHP operation
- Design of future sites
- "Green" hydrogen as an energy carrier

Heat distribution (deeper insight into energy distribution by means of heat network):

- Heat sinks (demand profiles)
- Losses
- Flow/return temperature
- Heat storage, hydraulic separator
- Transfer systems
- Influencing variables
- Cold networks and heat pumps
- Integration of solar thermal energy into heating networks
- Large solar thermal fields

- Heat storage especially in connection with solar thermal energy
- Economic efficiency of solar thermal energy

Basics of gas networks (energy distribution by means of gas network):

- pipeline-based energy transport (transport capacity, capacity price, working prices)
- Basics and basic terms (gaseous transport)
- gas quality (natural gas, hydrogen, biomethane, e-gas)
- Structure and components of a gas pipeline
- Transport network in Europe / Germany
- DVGW regulations

Basics of electricity grids (regulatory and energy industry):

- Historical development
- Electricity distribution structures
- Technical overview (voltage levels, tasks, responsibilities, structures)
- European / German power grid
- Current developments (network development plan, etc.)

Literature:

Compulsory:

- SCHMIDT, Dietrich, 2023. *Guidebook for the digitalisation of district heating: transforming heat networks for a sustainable future: final report ; Annex TS4, Digitalisation of district heating, optimised operation and maintenance of district heating and cooling systems via Digital Process Management*. Frankfurt am Main: AGFW-Project Company. ISBN 3-89999-096-X
- BREEZE, Paul, 2018 *Combined heat and power*. London ; San Diego ; Cambridge, MA ; Kidlington, Oxford: Elsevier. ISBN 978-0-12-812908-1, 0128129085
- FREDERIKSEN, Svend and Sven WERNER, 2013. *district heating and cooling*. Lund: Studentlitteratur. ISBN 978-91-44-08530-2

Recommended:

- Further literature will be announced in lecture.

Additional remarks:

No remarks.

Energy Markets and Coupling Sectors

Module attributes:	**Language of instruction**	**Duration of module**	
	English	15 weeks	

Responsible for module:	Huber, Matthias	
Lecturers:	Huber, Matthias	
Workload:	Contact hours:	58 h
	Self-study:	67 h

	Total effort: 125 h
Lecture types:	SU/Ü/PR - seminar based teaching/Exercise course/laboratory (EngMaCS_ESYS)
Recommended prereq-uisites:	

Basic knowledge of energy economics
Basic knowledge of energy production
Basic knowledge of business administration

Builds on and deepens other lectures:
Energy Distribution and CHP
SmartGrids and Wind Energy
Energy economics and renewable energies

Objectives:

The students

- understand the individual energy markets and the interactions through sector coupling
- know the influence of the power grids and system security requirements
- have an overview of the technologies that are relevant for sector coupling and know their economic opportunities

will be able to evaluate individual technologies from an economic and technical point of view and with regard to their environmental impact, and will be familiar with the factors that influence economically successful operation

- **Content:**

Energy markets and regulatory framework:

- Fundamentals of markets, supply and demand curves, pricing
- How does the electricity market work, electricity prices
  - Electricity exchange, energy only markets
  - Influence of renewable energies, funding schemes
  - Influence of power grid and system security
  - Interaction with neighboring countries
  - Electricity demand, electricity generation
- The heat market, heat prices, developments, influences
  - Heat demand
  - Heat generation
- The gas market, gas prices, developments, influences
- System services Electricity grid operation
- Fuel market
- New markets: local electricity markets, hydrogen market in the mobility sector

Basics and current status of renewable gas in the natural gas grid:

- Grid injection of renewable gases

- Legal, safety and economic aspects
- Current developments
- EGas, natural gas, BlueGas, green hydrogen

Secure electricity transport in the public grid as an additional market:

- Generation structures (effect of RES generation, flexibility of power plants, profile electricity generation with renewables).
- power distribution structures
- Measures for system security
  - System services (control power, reactive power, islanding and black start capability)
  - Capacity reserves, cold reserves
  - Disconnectable loads
  - Feed-in management
  - Smart markets

Overview of sector coupling technologies

- Storage
- Batteries in electric vehicles
- Heat pump
- Power to Heat
- Power to gas (methane, hydrogen)
- Power to Liquid
- CHP
- Smart Home (as controllable load)
- Industrial processes (system efficiency)
- Electric cars

The individual technologies are evaluated according to their technical characteristics:

- Responsiveness
- Energy to power ratio (full load hours, utilization capability)
- Demand response capability

Classification of the potentials of the individual sector coupling technologies in the context of the energy markets

- Electricity - mobility
- Electricity - heat
- Electricity - storage - electricity
- Electricity to gas (methane, hydrogen)

Technical and economic evaluation of the technologies:

- What are the expected costs:
  - Operating costs
  - Capital costs
- What prices can be obtained:
  - for the km mobility

- for heat
- for electricity
- for e-gas (methane, hydrogen)

- Current regulatory and legal framework
  - network charges
  - Taxes and levies
  - Avoided network charges
- Which markets are of interest

Electricity market (spot market)

- Heat market
- System services market
- Gas market

Fuel market

- **Literature:**

Compulsory:

- STOFT, Steven, 2010. *power system economics: designing markets for electricity*. [. edition. Piscataway, NJ: IEEE Press. ISBN 0-471-15040-1, 978-0-471-15040-4
- BRADFORD, Travis, 2018 *The energy system: technology, economics, markets, and policy*. Cambridge, MA: The MIT Press. ISBN 978-0-262-03752-5
- BHATTACHARYYA, Subhes C., 2019. *Energy economics: concepts, issues, markets and governance* [online]. London: Springer PDF e-Book. ISBN 978-1-4471-7468-4. Available via: https://doi.org/10.1007/978-1-4471-7468-4.

Recommended:

Will be announced in lecture

- **Additional remarks:**

None

Energy Storage

Module attributes:	**Language of instruction**	**Duration of module**	
	English	15 Weeks	
Responsible for module:	Schrag, Tobias		
Lecturers:	Reum, Tobias; Schmitt , David		
Workload:	Contact hours:		47 h
	Self-study:		78 h

	Total effort: 125 h
Lecture types:	SU/Ü/PR - seminar based teaching/Exercise course/laboratory (EnergStor_ESYS)

Recommended prerequisites:

None

Objectives:

The students

- can judge the need of storage according to the energy economic situation
- can differentiate between base load and peal load storage
- can evaluate different storages technologies according to a variety of criteria
- can estimate the economic benefit of a storage system
- can dimensionate storage systems

Content:

- storage properties
- energy density
- storage cycles
- charging speed
- thermal energy storage
- hot tap water storges
- Heating storage
- steam storage
- latent heat storage
- chemical storage
- dimensioning of storages
- electrical energy storages:
- battery basics
- charge control
- central vs decentral
- chemical storages
- gas storage hydrogen storage conversion efficiencies
- mechanical storages
- pumped hydro
- compressed air storage

Literature:

Compulsory:

None

Recommended:

- MATHEW, V. K., HOTTA, Tapano Kumar, ALI, Hafiz Muhammad, SUNDARAM, Senthilarasu, 2023. *Energy Storage Systems: Optimization and Applications* [online]. Singapore: Springer Nature Singapore PDF e-Book. ISBN 978-981-1945-02-1. Available via: https://doi.org/10.1007/978-981-19-4502-1.
- GUDE, Veera Gnaneswar, 2023. *energy storage for multigeneration: desalination, power, cooling and heating applications*. London: Elsevier. ISBN 978-0-12-821921-8
- NAMRATA, Kumari, SAINI, R. P., KOTHARI, D. P., 2024. *Wind and Solar Energy Systems* [online]. Singapore: Springer Nature Singapore PDF e-Book. ISBN 978-981-9997-10-7. Available via: https://doi.org/10.1007/978-981-99-9710-7.
- BRUN, Klaus, Timothy ALLISON and Richard DENNIS, 2021. *thermal, mechanical, and hybrid chemical energy storage systems*. London, United Kingdom ; San Diego, CA, United States ; Cambridge, MA, United States ; Kidlington, Oxford, United Kingdom: Academic Press, an imprint of Elsevier. ISBN 978-0-12-819894-0

Additional remarks:

No remarks.

Language courses and intercultural courses

German course (A1 or A2 depending on starting level)

Course attributes:	Language of instruction	Duration of the course	
	English/ German	15 weeks	

Responsible for the course:	Tanuja Pate
Lecturers:	Offered by the Language Center
Workload:	Contact hours: 60 h Self-study: 60 h Total effort: 120 h
Lecture types:	SU/Ü - Lecture with integrated exercises

Recommended prerequisites:

If level A2 is chosen, proof of A1 is required.

Objectives:

- Acquisition of basic German language skills at level A1 or A2 of the Common European Framework of Reference for Languages (CEFR).
- Development of simple communicative skills in everyday situations.

- Acquire the ability to communicate orally and in writing in basic linguistic contexts.
- Mastery of basic vocabulary and the fundamental grammatical structures of the German language.

Contents:

1. **Introduction and basics**
   Welcome and introduction
   Alphabet and numbers
   Basic pronunciation rules
   Introduce yourself and others
2. **Everyday life and leisure**
   Daily routine and leisure activities
   Hobbies and interests
   Shopping and ordering
   Times and calendar
3. **House and living**
   Living and furnishing
   Description of the places of residence
   Giving and understanding addresses and directions
4. **Food and drink**
   Food and meals
   Ordering in a restaurant
   Recipes and cooking
5. **Work and study**
   Professions and activities
   University and studies
   Everyday life in the office and at the university
6. **Health and body**
   Body parts and health
   Visit to the doctor and pharmacy
   Descriptions of diseases and medical advice
7. **Travel and transportation**
   Means of transportation and timetables
   Travel and vacation
   Directions and orientation
8. **Grammar and language structures**
   Basics of German grammar (articles, nouns, pronouns, verbs)
   Sentence structures and word order
   Tenses (perfect tense)
   Interrogative and negative sentences

Literature:

Mandatory: tba

Additional remarks:

This structure offers a comprehensive introduction to the German language at levels A1 and A2 and lays the foundation for further language courses and successful integration into everyday German life and the academic environment.

Intercultural competence

Course attributes:	Language of instruction	Duration of the course	
	English	16h	

Responsible for the course:	IO/IWC	
Lecturers:	Provided by IO/IWC	
Workload:	Contact hours:	12 h
	Self-study:	4 h
	Total expenditure:	16 h
Topics of the course:	Intercultural competence	
Lecture types:	SU/Ü/PR - Lecture with integrated exercises • Lecture • Group work and discussions • Role plays and case studies • Self-reflection and peer feedback	

Prerequisites

None

Recommended prerequisites:

None

Objectives:

The participants:

- develop an awareness of their own cultural influences and their effects on interaction with others.

- develop a basic understanding of cultural differences and their impact on daily life and studying in Germany.

- acquire sensitivity for intercultural communication and conflict resolution strategies

- develop skills for successful integration into German society and culture.

Contents: Contents: 1. basics of interculturality o Definition and meaning of culture o Critical introduction to cultural theory models o Cultural dimensions and their influence on perception and behavior 2. intercultural communication o Verbal and non-verbal communication o Communication styles in different cultures o Dealing with misunderstandings and communication barriers o Practical exercises on intercultural communication 3. Cultural particularities in Germany o Historical and social foundations of German culture o German values and norms o Academic culture in Germany: expectations and behavior at universities 4. Intercultural sensitivity o Raising awareness of clichés and prejudices o Reflecting on your own cultural influences o Methods to promote intercultural sensitivity 5. conflict management in intercultural contexts o Typical causes of conflict in intercultural encounters o Conflict resolution strategies and mediation techniques o Case studies and role plays for conflict resolution 6 Intercultural teamwork and cooperation o Dynamics and challenges in multicultural teams o Success factors for effective teamwork o Practical exercises on cooperation in intercultural teams
Literature:
Recommended: tbd
Additional remarks:
This module is aimed at international participants in the SHIFT Study Sprint RES who are new to Germany and is intended to make it easier for them to familiarize themselves with the German university and everyday culture.

Course on scientific work and organization

Scientific and independent work

Course attributes:	Language of instruction	Duration of the course	
	English	6h	

Responsible for the course:	Staff at CSS
Lecturers:	Offered by CSS
Workload:	Contact hours: 6 h Self-study: 0 h Total expenditure: 6 h
Topics of the course:	Scientific and independent work
Lecture types:	• Lectures and practical exercises • Group work and mutual feedback • Case studies • Reading and analyzing scientific texts • Presentations and discussions

Prerequisites

None

Recommended prerequisites:

None.

Objectives:

The participants:

1. learn basic methods and techniques of scientific work
2. Develop the ability to organize and carry out scientific projects independently.
3. Acquisition of knowledge in dealing with scientific sources and literature research.
4. Be able to write and present scientific texts.
5. Strengthening critical thinking and analytical skills.

Contents:

1. introduction to scientific work
   - o Definition and significance of scientific work
   - o Overview of various scientific disciplines
   - o Fundamentals of scientific thinking and argumentation
2. literature research and source work
   - o Use of libraries and databases
   - o Differentiation between primary and secondary sources
   - o Citation rules and avoidance of plagiarism
   - o Evaluation and selection of relevant literature

Plagiarism, own scientific achievements, etc.

3. methods of scientific work with a focus on engineering disciplines Qualitative and quantitative research methods Data analysis and interpretation Creation and implementation of studies and experiments 4. structure and design of the academic paper Structure and design of seminar papers, term papers and theses Introduction, main part and conclusion Formal requirements and layout 5. writing and presenting scientific papers o Scientific writing style and linguistic precision o Argumentation structures and coherent text structure o Creation of presentations and posters o Presentation techniques and dealing with feedback 6. time and self-management o Planning and organization of study projects o Time management techniques and tools o Dealing with stress and procrastination 7. Critical thinking and problem solving o Development of analytical and critical thinking skills o Recognizing and solving problems in a scientific context o Reflection and self-criticism 8. working in intercultural teams at the university o Communication and collaboration in student groups and with lecturers
Literature:
Recommended: tbd
Additional remarks:
This module is aimed at international SHIFT Study Sprint RES participants who wish to improve their academic and independent study skills.

Course: Practical life skills, in Ingolstadt, Bavaria, Germany

Social skills and onboarding			
Course attributes:	**Language of instruction**	**Duration of the course**	
	English	40h	
Responsible for the course:	SHIFT personnel		
Lecturers:	Offered by IO/IWC		
Workload:	Contact hours:		40 h
	Self-study:		0 h
	Total expenditure:		40 h

Topics of the course:	Practical life skills, such as cooking, financial planning, first aid. Excursions to important institutions in Ingolstadt; promotion of social integration and intercultural understanding, exchange with local experts and stakeholders
Lecture types:	Practical exercises and workshops Excursions Discussions and group work Guest lectures

Objectives:

Participants:

- develop everyday skills:

a. Students should acquire basic skills for everyday life, such as housekeeping, financial management and health care.
b. They should be able to cope with the challenges of everyday life independently and efficiently.

- understand regional characteristics:

c. Students should get to know the cultural, social and economic characteristics of Ingolstadt and Bavaria.
d. They should develop an understanding of regional history and traditions and know how these influence daily life.

- use public and private services:

e. Students should learn how to use public services and offers in Ingolstadt efficiently, e.g. public transportation, health facilities, educational offers.
f. They should also know what private services are available to them and how to access them, e.g. insurance, banking, housing, legal advice, etc.

- integrate collectively and socially:

g. Students should understand the importance of community and social integration and actively participate in community activities at THI and in Ingolstadt.
h. They should develop intercultural communication and cooperation skills in order to be successful in Ingolstadt's multicultural society.

Contents:

- Everyday life and housekeeping: Basics of housekeeping: shopping, cooking, cleaning and maintenance.
- Financial management: budget planning, insurance, savings
- Preventive healthcare: nutrition, sport, visits to the doctor, preventive measures.

- Culture and traditions in Bavaria: Bavarian history and culture: important events and traditions
- Festivals and celebrations in Ingolstadt and Bavaria: folk festivals, local events and customs, public holidays
- Bavarian cuisine: typical dishes and how to prepare them.
- Use of public and private services:
- Public transport: network, timetables and ticketing systems.
- Healthcare system: doctors, hospitals, pharmacies and emergency services.
- Education and training opportunities: Adult education centers, etc.
- Community and social integration:
- Associations and non-profit organizations in Ingolstadt: Commitment and participation.
- Networks and social contacts: Building and maintaining relationships in the community.
- Legal and bureaucratic foundations:
  - Important legal basics: registration obligations, residence law, labor law.

Bureaucratic procedures:

- Applications, forms, dealing with authorities.

Leisure and recreation:

- Leisure activities at the THI and in Ingolstadt: parks, sports clubs, cultural facilities, student clubs and initiatives.
- Excursion destinations in the surrounding area: sights and natural beauty in Bavaria.
- Planning and organization of leisure activities.

Literature:

No compulsory reading, optional reading will be suggested during the course

Additional remarks:

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Practical professional preparation

Practical work preparation			
Course attributes:	**Language of instruction**	**Duration of the course**	
	English	40h	
Responsible for the course:	IO/CSS - Magdalena Mühldorfer		
Lecturers:	Offered via IO/CSS		
Workload:	Contact hours:		40 h
	Self-study:		0 h
	Total expenditure:		40 h
Lecture types:	Activities accompanying the internship: • Presentations/lectures on a range of practical professional topics • Exercises on job applications and working life • Excursions to local companies and institutions • Participation in CONTACT		
Recommended prerequisites:			
None.			
Objectives:			
Students should: 1. get to know the regional economic structure 2. get to know the local and regional companies 3. learn the essentials for job applications and professional life 4. Recognize the importance of networking			
Contents: ▪ Introduction to the local and regional labor market ▪ Work culture and ethics ▪ Excursions to companies			
Literature:			
No compulsory reading, optional reading will be suggested during the course			
Additional remarks:			
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