Technische Hochschule Ingolstadt

Programme description

SS2025

SHIFT Study Sprint Renewable Energy Systems

Preparatory programme

Table of content

1 Preparatory programme

Name of programme	SHIFT Study Sprint Renewable Energy Systems (SHIFT Study Sprint RES)
Type of programme	Preparatory programme for the Master's degree in Erneuerbare Rnewable Energy Systems
First start date	17.3.2025, anual start (subject to chances until 2028)
Duration	15 weeks
Location of programme	THI, Ingolstadt

Language of instruction	English
Admission requirements	Bachelor's degree (ggf. VPD necessary) and sucessfully completed selection procedure
Capacity	Up to 25 participants anually
Contact details	Professor: Prof. Dr. Matthias Huber Administration: SHIFT @ IO E-Mail: shift@thi.de

2 Introduction

2.1 Objective

The SHIFT Study Sprint RES prepares international prospective students for the Renewable Energy Systems degree programme and supports them with onboarding and integration at Technische Hochschule Ingolstadt and in Ingolstadt.

2.2 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.

2.3 Target group

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

2.4 Structure

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

2.5 Specialised compulsory electives

The scientific electives are designed to intensively prepare prospective students in the SHIFT preparatory programme, who come to us at THI from different disciplines and degrees, for their studies at the RES, acquiring all the necessary basic knowledge and thus also refreshing their technical English.

2.6 Requirements for progression

The SHIFT Study Sprint RES lasts 15 weeks. It cannot be repeated. SHIFT participants are supported in their application for the Master's degree programme Renewable Energy Systems (Master RES) (application deadline 1 October to 15 November each year). However, a separate application must be submitted. SHIFT participants are not automatically transferred to the Master RES.

3 Description of the programme curriculum

3.1 Compulsory courses

Participation in the following courses is compulsory. 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		
Workload:	Contact hours:		47 h
	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 participants: • 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 behaviour 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*. 2. 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 participants: • 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 familiarise 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 electric quantities
Literature:
Compulsory: • HACKER, Viktor and Christof SUMEREDER, 2020. *Electrical engineering : fundamentals*. München; Wien: 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:* • Will be announced in the lecture
Additional remarks:
None

3.2 Elective subjects

SHIFT Study Sprint RES participants have to choose one of the three elective subjects listed. This is preceded by a registration procedure.

- Energy Distribution and CHP Plants
- Energy Markets and Coupling Sectors
- Enegry Storage

Energy Distribution and CHP Plants			
Module abbreviation:	**Language of instruction**	**Duration of module**	

	English	15 Weeks	
Responsible for module:	Huber, Matthias		
Lecturers:	Huber, Matthias; Selleneit, Volker		
Workload:	Contact hours:		47 h
	Self-study:		78 h
	Total effort:		125 h
Lecture types:	SU/Ü/PR - seminar based teaching/Exercise course/laboratory (EnergDistCHPP_ESYS)		

Objectives:

The participants:

- 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:* • Will be announced in the lecture
Additional remarks:
None

Energy Markets and Coupling Sectors

Module abbreviation:	**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 prerequisites:	

- 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 participants:

- 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 abbreviation:	**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 participants:

- 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:
None

3.3 Language courses and intercultural courses

German course (A1 or A2 depending on starting level)			
Course abbreviation:	**Language of instruction**	**Duration of course**	
	English/German	15 weeks	
Responsible for course:	Tanuja Pate		

Lecturers:	Provided 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 communication skills for everyday situations
- Attain the ability to communicate orally and in writing in fundamental linguistic contexts
- Secure command of basic vocabulary and basic grammatical structures of the German language

Content:

- Introduction and Basics
  - Welcome and introduction
  - Alphabet and numbers
  - Basic pronunciation rules
  - Introducing yourself and others
- Everyday life and leisure time
  - Daily routine and leisure activities
  - Hobbies and interests
  - Shopping and ordering
  - Times and calendar
- Home and living
  - Living and furnishing
  - Describing places of residence
  - Giving and understanding addresses and directions
- Eating and drinking
  - Food and meals
  - Ordering in a restaurant
  - Recipes and cooking
- Working and studying
  - Professions and jobs
  - University and studying
  - Everyday life in the office and at university
- Health and body
  - Body parts and health
  - Visits to the doctor and pharmacy
  - Descriptions of illnesses and medical advice
- Travelling and transportation
  - Transport and timetables
  - Travelling and holidays
  - Directions and orientation

- 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:

Compulsory:

- Will be announced in the lecture

Recommended:

- Will be announced in the lecture

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 abbreviation:	Language of instruction	Duration of course	
	English	16h	
Responsible for course:	SHIFT-Team		
Lecturers:	Provided by IO/IWC		
Workload:	Contact hours:		12 h
	Self study:		4 h
	Total effort:		16 h
Course topic:	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		

Recommended prerequisites:

None

Objectives:

The participants:

- develop an awareness of their own cultural imprints and how those imprints affect their interactions with others
- develop a basic understanding of cultural differences and their impact on daily life and studies in Germany
- acquire sensitivity for intercultural communication and conflict resolution strategies

- develop skills for successful integration into German society and culture

Content:

- Basics of interculturality
  - Definition and meaning of culture
  - Critical introduction to models of cultural theory
  - Cultural dimensions and their influence on perception and behaviour
- Intercultural communication
  - Verbal and non-verbal communication
  - Communication styles in different cultures
  - Dealing with misunderstandings and communication barriers
  - Practical exercises on intercultural communication
- Cultural characteristics in Germany
  - Historical and social foundations of German culture
  - German values and norms
  - Academic culture in Germany: expectations and behaviour at universities
- Intercultural sensitivity
  - Sensitisation to clichés and prejudices
  - Reflection on own cultural influences
  - Methods for promoting intercultural sensitivity
- Conflict management in intercultural contexts
  - Typical causes of conflict in intercultural encounters
  - Conflict resolution strategies and mediation techniques
  - Case studies and role plays for conflict resolution
- Intercultural teamwork and co-operation
  - Dynamics and challenges in multicultural teams
  - Success factors for effective teamwork
  - Practical exercises on cooperation in intercultural teams

Literature:

Compulsory:

- Will be announced in lecture

Recommended:

- Will be announced in lecture

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 familiarise themselves with the German university and everyday culture.

3.4 Course on scientific work and organisation

Scientific and independent working			
Course abbreviation:	**Language of instruction**	**Duration of course**	
	English	6h	

Responsible for course:	SHIFT-Team (CSS)
Lecturers:	Provided by CSS
Workload:	Contact hours: 6 h Self study: 0 h Total effort: 6 h
Course topic:	Scientific and independent working
Lecture types:	• Lectures and practical exercises • Group work and mutual feedback • case studies • Reading and analysing scientific texts • Presentations and discussions

Recommended prerequisites:

None

Objectives:

The participants:

- learn basic methods and techniques of scientific work
- develop the ability to organise and carry out scientific projects independently
- acquire knowledge in dealing with scientific sources and literature research
- are able to write and present scientific texts
- strengthen their critical thinking and analytical skills

Content:

- Introduction to scientific work
  - Definition and meaning of scientific work
  - Overview of various scientific disciplines
  - Basics of scientific thinking and argumentation
- Literature research and source work
  - Use of libraries and databases
  - Distinguishing between primary and secondary sources
  - Citation rules and avoidance of plagiarism
  - Analysing and selecting relevant literature
  - Plagiarism, own scientific achievements, etc.
- Methods of scientific work with a focus on engineering disciplines
  - Qualitative and quantitative research methods
  - Data analysis and interpretation
  - Creation and realisation of studies and experiments
- Structure and organisation of scientific work
  - Structure and composition of seminar papers, term papers and theses
  - Introduction, main body and conclusion
  - Formal requirements and layout
- Writing and presenting scientific papers
  - Academic writing style and linguistic precision
  - Argumentation structures and coherent text structure
  - Creating presentations and posters
  - Presentation techniques and dealing with feedback

• Time and self-management
  ○ Planning and organising study projects
  ○ Time management techniques and tools
  ○ Dealing with stress and procrastination
• Critical thinking and problem solving
  ○ Developing analytical and critical thinking skills
  ○ Recognising and solving problems in a scientific context
  ○ Reflection and self-criticism
• Working in intercultural teams at the university
  ○ Communication and cooperation in groups and with lecturers

Literature:
Compulsory: • None *Recommended:* • Will be announced in lecture
Additional Remarks:
This module is aimed at international SHIFT Study Sprint RES participants who wish to improve their academic and independent study skills.

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

Social skills and onboarding			
Course abbreviation:	**Language of instruction**	**Duration of course**	
	English	40h	
Responsible for course:	SHIFT-Team: Haley Culpepper		
Lecturers:	Provided by IWC/IO		
Workload:	Contact hours: 40 h Self study: 0 h Total effort: 40 h		
Course topic:	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 life skills:

- Participants should acquire basic skills for everyday life, such as housekeeping, financial management and healthcare.
- Participants should be able to cope with the challenges of everyday life independently and efficiently.

Participants understand regional specialities:

- Participants should learn about the cultural, social and economic characteristics of Ingolstadt and Bavaria.
- Participants should develop an understanding of regional history and traditions and know how these influence daily life.

Participants use public and private services:

- Participants should learn how to use public services and offers in Ingolstadt efficiently, e.g. public transport, health facilities, educational offers.
- Participants should also know which private services are available to them and how they can make use of them, e.g. insurance, banks, housing, legal advice, etc.

Participants integrate collectively and socially:

- Participants should understand the importance of community and social integration and actively participate in community activities at THI and in Ingolstadt.
- Participants should develop intercultural communication and co-operation skills in order to be successful in Ingolstadt's multicultural society.

Content:

- Alltagsleben und Haushaltsführung:
    - Grundlagen der Haushaltsführung: Einkaufen, Kochen, Putzen und Instandhaltung

- Everyday life and Household management:
    - Household management basics: shopping, cooking, cleaning and maintenance
- Financial management: budget planning, insurance, saving
- Health care: nutrition, sport, visits to the doctor, preventative 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 their preparation
- Utilisation of public and private services:
    - Public transport: network, timetables and ticket systems
    - Healthcare system: doctors, hospitals, pharmacies and emergency services
    - Education and training opportunities: Adult education centres, etc.
- Community and social integration:
    - Associations and non-profit organisations in Ingolstadt: commitment and participation
    - Networks and social contacts: Building and maintaining relationships in the community
- Legal and bureaucratic basics:

○ Important legal basics: registration obligations, right of residence, labour 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 organisation of leisure activities
Literature:
Compulsory: • None *Recommended:* • Will be announced in lecture
Additional Remarks:
None

3.6 Practical professional preparation

Practical professional preparation			
Course abbreviation:	**Language of instruction**	**Duration of course**	
	English	40h	
Responsible for course:	SHIFT-Team (CSS)		
Lecturers:	Provided by IWC/CSS		
Workload:	Contact hours: Self study: Total effort:		40 h 0 h 40 h
Lecture types:	Internship-related activities: • Presentations/lectures on a range of practical work-related topics • Exercises on job applications and working life • Excursions to local companies and institutions • Participation in CONTACT		
Recommended prerequisites:			
None			
Objectives:			
The participants will: • familiarise themselves with the regional economic structure • get to know the local and regional companies			

• learn the essentials for job applications and professional life • recognise the importance of networking
Content:
• Introduction to the local and regional labour market • Work culture and ethics • Excursions to companies
Literature:
Compulsory: • None *Recommended:* • Will be announced in lecture
Additional Remarks:
None