

Programme description

Winter semester, 2026-2028

SHIFT Study Sprint Sustainable Civil Engineering

Preparatory programme

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1 Preparation programme

Programme name	SHIFT Study Sprint Sustainable Civil Engineering (SHIFT Study Sprint SCE)
Certificate of participation	Preparation programme for the bachelor's degree in Sustainable Civil Engineering
First start date	1 October 2026, annual start (subject to change until 2028)
Duration	1 semester, approx. 16 weeks
Location of the programme	THI, Neuburg campus
Language of instruction	English
Admission requirements	University entrance qualification (VPD required) and successful completion of the selection process
Capacity	Max. 25 participants per year
Contact	Head of programme: Prof. Dr Oliver Blask Administration: SHIFT Team, International Office Email shift@thi.de

2 Introduction

2.1 Objective

The SHIFT Study Sprint SCE preparatory programme prepares international prospective students for the Sustainable Civil Engineering degree programme and supports them in their onboarding and integration at the Technical University of Ingolstadt and in Germany.

2.2 Admission requirements

The admission requirements for the SHIFT Study Sprint SCE preparatory programme are based on the admission requirements for the bachelor's degree in Sustainable Civil Engineering, as participants in the SHIFT Study Sprint SCE preparatory programme should enrol in the bachelor's degree in Sustainable Civil Engineering at THI after successfully completing the programme.

2.3 Target group

The SHIFT Study Sprint SCE preparatory programme is aimed at prospective students from abroad who would like to enrol in the bachelor's degree programme in Sustainable Civil Engineering in the following summer semester and would therefore like to benefit from preparatory and supportive measures before starting their regular studies.

2.4 Structure

The SHIFT Study Sprint SCE preparatory programme lasts one semester (approximately 16 weeks). The courses offered are based on the modules from the upcoming bachelor's programme and their importance for the participants' academic success.

2.5 Specialised compulsory subjects

The academic courses and workshops serve to intensively prepare participants in the preparatory programme, who come to THI with different educational backgrounds, so that they can acquire the necessary basic knowledge and begin learning the German language.

2.6 Requirements for transitioning to the degree programme

The SHIFT Study Sprint SCE preparatory programme lasts one semester. It cannot be repeated. Participants in the preparatory programme are supported in their application for the bachelor's programme in Sustainable Civil Engineering (SCE). A separate application must be submitted for the bachelor's programme; participants in the preparatory programme are not automatically admitted to the degree programme.

3 Description of programme content

3.1 Compulsory courses

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

Bridge course in mathematics			
Module code:	Language of instruction	Module duration	
	English	1 semester	
Module coordinator:	SHIFT Team, International Office		
Lecturer:	To be announced		
Workload:	Contact hours:		47 hours
	Self-study:		78 hours
	Total time required:		125 hours
Teaching methods used in the module:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:	None		
Intended learning outcomes:			
Course topics:	<ul style="list-style-type: none"> Mathematical fundamentals as the focus of the course 		

<ul style="list-style-type: none"> • Elementary functions (powers, roots, integer and fractional rational, exponential, logarithmic and trigonometric functions) • Root and absolute value equations and inequalities, linear systems of equations • Number sequences • Differential and integral calculus • Vector calculus and analytical geometry from A to Z with a focus on geometry and representation
Literature:
<i>Will be announced in class.</i>
Comments
No notes

German course A1			
Course code:	Course language	Course duration	
	English/German	1 semester	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	Offered by the Language Centre		
Workload:	Contact hours:		60
	Self-study:		60 hours
	Total workload:		120 hours
Lecture types:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:			
None			
Intended learning outcomes:			
<ul style="list-style-type: none"> • Acquisition of basic knowledge of the German language at level A1 of the Common European Framework of Reference for Languages (CEFR) • Development of simple communication skills in everyday situations • Acquisition of the ability to communicate orally and in writing in basic linguistic contexts • Mastery of basic vocabulary and fundamental grammatical structures of the German language 			
Content:			
<ul style="list-style-type: none"> • Introduction and basics <ul style="list-style-type: none"> ○ Greetings and introduction ○ Alphabet and numbers ○ Basic pronunciation rules ○ Introducing yourself and others • Everyday life and leisure <ul style="list-style-type: none"> ○ Daily routine and leisure activities ○ Hobbies and interests ○ Shopping and ordering 			

<ul style="list-style-type: none"> ○ Time and calendars ● Home and living <ul style="list-style-type: none"> ○ Living and furnishing ○ Description of places of residence ○ Giving and understanding addresses and directions ● Food and drink <ul style="list-style-type: none"> ○ Food and meals ○ Ordering in a restaurant ○ Recipes and cooking ● Work and study <ul style="list-style-type: none"> ○ Professions and activities ○ University and studies ○ Everyday life in the office and at university ● Health and body <ul style="list-style-type: none"> ○ Body parts and health ○ Visits to the doctor and pharmacy ○ Descriptions of illnesses and medical advice ● Travel and transport <ul style="list-style-type: none"> ○ Means of transport and timetables ○ Travel and holidays ○ Directions and orientation ● Grammar and language structures <ul style="list-style-type: none"> ○ Basics of German grammar (articles, nouns, pronouns, verbs) ○ Sentence structures and word order ○ Tenses (perfect tense) ○ Interrogative and negative sentences
Literature:
<p><i>Required:</i></p> <ul style="list-style-type: none"> ● To be announced in the lecture <p><i>Recommended:</i></p> <ul style="list-style-type: none"> ● Will be announced in the lecture
Comments:
<p>This structure offers a comprehensive introduction to the German language at level A1 and lays the foundation for further language courses and successful integration into everyday German life and the academic environment. Participants who attend classes regularly and pass the final examination will receive a THI language certificate.</p>

Excel Basics Workshop			
Course code:	Course language	Course duration	
	English	Block course, 5 hours	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		
Workload:	Contact hours:		5 hours
	Self-study:		10 hours
	Total time required:		15 hours
Lecture types:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:			
None			
Intended learning outcomes:			
Learning outcomes for participants:			
<ul style="list-style-type: none"> • Acquisition of basic knowledge of Microsoft Excel: After completing the course, participants will be able to understand the Excel user interface and master basic functions such as entering and formatting data. • Creating tables and charts: Participants will be able to create simple tables, sort and filter data, and create meaningful charts to visualise data. • Using formulas and functions: Participants will be able to use basic formulas and functions in Excel to perform calculations and process data efficiently. • Working efficiently with Excel: Participants learn how to use Excel effectively to save time and make their work more efficient, e.g. by using autofill and style sheets. 			
Literature:			
None			
Comments:			
No comments			

Intercultural competence			
Course code:	Course language	Course duration	
	English	Block course, 4 hours	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		

Workload:	Contact hours:	4 hours
	Self-study:	10 hours
	Total time required:	14 hours
Course topics:	Intercultural competence and communication	
Lecture types:	SU/Ü – seminar-based teaching with integrated exercises <ul style="list-style-type: none"> • Group work and discussions • Role-playing and case studies • Self-reflection and peer feedback 	
Recommended prerequisites:		
None		
Intended learning outcomes:		
Participants: <ul style="list-style-type: none"> • Develop an awareness of their own cultural influences and how these affect their interactions 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 		
Content:		
<ul style="list-style-type: none"> • Fundamentals of interculturality <ul style="list-style-type: none"> ○ Definition and significance of culture ○ Critical introduction to cultural theory models ○ Cultural dimensions and their influence on perception and behaviour • Intercultural communication <ul style="list-style-type: none"> ○ Verbal and non-verbal communication ○ Communication styles in different cultures ○ Dealing with misunderstandings and communication barriers ○ Practical exercises in intercultural communication • Cultural characteristics in Germany <ul style="list-style-type: none"> ○ Historical and social foundations of German culture ○ German values and norms ○ Academic culture in Germany: expectations and behaviour at universities • Intercultural sensitivity <ul style="list-style-type: none"> ○ Awareness of stereotypes and prejudices ○ Reflection on one's own cultural influences ○ Methods for promoting intercultural sensitivity • Conflict management in intercultural contexts <ul style="list-style-type: none"> ○ Typical causes of conflict in intercultural encounters ○ Conflict resolution strategies and mediation techniques ○ Case studies and role-playing exercises for conflict resolution • Intercultural teamwork and cooperation <ul style="list-style-type: none"> ○ Dynamics and challenges in multicultural teams ○ Success factors for effective teamwork ○ Practical exercises on cooperation in intercultural teams 		
Literature:		

None
Notes
This module is aimed at international participants in the SHIFT Study Sprint SCE preparatory programme who are new to Germany and is designed to facilitate their transition into German university life and everyday life.

3.2 Elective subjects

SHIFT Study Sprint SCE participants must choose at least two elective subjects from the list below. Registration takes place via the SHIFT Moodle course and participation will be verified.

- Excel Advanced Workshop
- Scientific and independent work
- Further IT workshops offered by SHIFT during the semester, e.g. Microsoft Word Advanced, Python, Power BI, etc.
- Additional workshops offered by the Career Service & Student Counselling Department, e.g. time management and learning, workshop on creating a CV and cover letter, workshop on successfully using AI in the application process, etc.

Excel Advanced Workshop			
Module code:	Language of instruction	Module duration	
	English	Block course, 5 hours	
Module coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		
Workload:	Contact hours:		5 hours
	Self-study:		15 hours
	Total workload:		20 hours
Teaching methods for the module:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:			
<ul style="list-style-type: none"> • Basic knowledge and initial experience with Excel 			
Intended learning outcomes:			
Learning outcomes for participants:			
<ul style="list-style-type: none"> • Acquire in-depth knowledge of advanced Excel functions: After completing the workshop, participants will be able to effectively use advanced functions such as IF, VLOOKUP and IFERROR and understand how to perform complex calculations in Excel. • Creating complex data analyses and reports: Participants will learn how to use pivot tables and pivot charts to summarise data, identify trends and create meaningful reports. In addition, they will be able to use subtotals to group and summarise data. 			

<ul style="list-style-type: none"> Working efficiently and validating data in Excel: Participants learn how to protect their worksheets, analyse data using AutoFilter and Advanced Filter, use data validation to control data entry, and apply advanced formatting techniques such as conditional formatting and advanced number formats. Using advanced visualisation options in Excel: Participants learn how to create screen and chart types, use chart templates and create advanced charts to present data in a visually appealing way, and how to effectively use effects such as data search, scenario manager and other extras in Excel.
Contents:
<ul style="list-style-type: none"> Range names and absolute relationships Choice of important functions: IF, VLOOKUP, IFERROR Cell, sheet and file protection AutoFilter and Advanced Filter Subtotals Pivot tables and pivot charts Data validation Advanced number formats and conditional formatting Picture charts and chart templates Value search, scenario manager and other extras
Literature:
None
Comments:
No comments

Scientific and independent work			
Module code:	Language of instruction	Module duration	
	English	Block course, 6 hours	
Module coordinator:	SHIFT staff at CSS		
Lecturer:	External provider		
Workload:	Contact hours:		6 hours
	Self-study:		12 hours
	Total workload:		18 hours
Teaching methods used in the module:	<ul style="list-style-type: none"> Seminar-based teaching and practical exercises Group work and mutual feedback Case studies Reading and analysing academic texts Presentations and discussions 		
Intended learning outcomes:			

<p>Participants will:</p> <ul style="list-style-type: none"> • 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 • Will be able to write and present scientific texts • Strengthen their critical thinking and analytical skills
<p>Contents:</p> <ul style="list-style-type: none"> • Introduction to scientific work <ul style="list-style-type: none"> ○ Definition and significance of academic work ○ Overview of various scientific disciplines ○ Fundamentals of scientific thinking and argumentation • Literature research and source work <ul style="list-style-type: none"> ○ Use of libraries and databases ○ Distinction between primary and secondary sources ○ Citation rules and avoiding plagiarism ○ Evaluation and selection of relevant literature ○ Plagiarism, own academic achievements, etc. • Methods of academic work with a focus on engineering disciplines <ul style="list-style-type: none"> ○ Qualitative and quantitative research methods ○ Data analysis and interpretation ○ Design and implementation of studies and experiments • Structure and design of scientific work <ul style="list-style-type: none"> ○ Structure and design of seminar papers, term papers and theses ○ Introduction, main body and conclusion ○ Formal requirements and layout • Writing and presenting scientific papers <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ Planning and organisation of study projects ○ Time management techniques and tools ○ Dealing with stress and procrastination • Critical thinking and problem solving <ul style="list-style-type: none"> ○ Developing analytical and critical thinking skills ○ Identifying and solving problems in an academic context ○ Reflection and self-criticism • Working in intercultural teams at university <ul style="list-style-type: none"> ○ Communication and collaboration in groups and with lecturers
<p>Literature:</p> <p>None</p>
<p>Comments:</p> <p>No comments</p>

Further IT workshops in the SHIFT semester programme			
Module code:	Language of instruction	Module duration	
	English	Block course, 6 hours	
Module coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		
Workload:	Contact hours:	6 hours	
	Self-study:	20 hours	
	Total workload:	26 hours	
Teaching methods used in the module:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:			
None			
Intended learning outcomes:			
<p>Participants have the opportunity to take part in various IT workshops that cover system-relevant skills that are important for their studies and later in the job market. The following or similar workshops are offered regularly:</p> <ul style="list-style-type: none"> • Microsoft Word Advanced Workshop • Python Basics 2-day training course • Power BI Basics and Advanced Workshop • And much more 			
Literature:			
None			
Comments			
The IT offering is evaluated regularly and is based on recommendations from the degree programme directors and workshops that have been expressly requested by students. It is possible to adapt the offering and tailor it even more precisely to the programme.			

Further workshops on study organisation in the CSS semester programme			
Module code:	Language of instruction	Module duration	
	English	Block course, 3-6 hours	
Module coordinator:	Student Advisory Team, CSS		
Lecturer:	To be announced or external provider		

Workload:	Contact hours:	3-6 hours
	Self-study:	10 hours
	Total workload:	13-16 hours
Teaching methods for the module:	SU/Ü – seminar-based teaching with integrated exercises	
Recommended prerequisites:		
None		
Intended learning outcomes:		
<p>Participants have the opportunity to take part in various workshops on study organisation, which teach important competencies and skills for academic success. The following or similar workshops are offered regularly:</p> <ul style="list-style-type: none"> • Time and self-management workshop • Workshop on dealing with conflict • Storytelling workshop • And many more 		
Literature:		
None		
Comments:		
The programme is evaluated regularly. You are always welcome to submit ideas and requests for further workshops on the topic of study organisation and success to the CSS department, thereby actively shaping the workshop programme.		

3.3 Intercultural courses

SHIFT Study Sprint SCE participants choose at least two of the workshops or courses from the list of intercultural offerings. The registration process is carried out via the SHIFT Moodle course and participation is verified.

- German Business Etiquette
- Other workshops that contribute to success in German professional life, e.g. the application process in Germany (How to apply in Germany), the use of AI in the application process, salary negotiations, etc.
- Additional workshops and activities that contribute to cultural integration, e.g. language game night, WG-Gesucht (How to find a shared flat in Germany?), participation in a country evening, etc.

German Business Etiquette			
Course code:	Course language	Course duration	
	English	Block course, 4 hours	

Course coordinator:	SHIFT Team, International Office	
Lecturer:	External provider	
Workload:	Contact hours:	4 hours
	Self-study:	10 hours
	Total time required:	14 hours
Course topics:	Intercultural competence and communication	
Lecture types:	SU/Ü – seminar-based teaching with integrated exercises <ul style="list-style-type: none"> • Group work and discussions • Role-playing and case studies • Self-reflection and peer feedback 	
Recommended prerequisites:		
None		
Intended learning outcomes:		
Learning outcomes for participants: <ul style="list-style-type: none"> • Learning how to make a good first impression in the workplace • Become familiar with social norms and communication styles in German companies • Confident behaviour and self-presentation during internships, student jobs or full-time employment after graduation 		
Content:		
<ul style="list-style-type: none"> • Expectations in the German working environment • Social norms in German companies, such as lunch breaks, appropriate clothing and more • Dealing with colleagues and superiors, tips and mistakes to avoid 		
Literature:		
None		
Comments:		
No comments		

Further workshops: Success in German working life			
Course code:	Course language	Course duration	
	English	Block course, 4 hours	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		
Workload:	Contact hours:	4 hours	
	Self-study:	10 hours	
	Total time required:	14 hours	

Lecture types:	SU/Ü – seminar-based teaching with integrated exercises
Recommended prerequisites:	
None	
Intended learning outcomes:	
<p>Participants have the opportunity to take part in various workshops on how to successfully start their professional careers. These workshops prepare students in particular for (mandatory) internships, academic work at companies and professional life after graduation. The following or similar workshops are offered regularly:</p> <ul style="list-style-type: none"> • Workshop: Application process in Germany (How to apply in Germany) • Workshop: "The use of AI in the application process" • Practical exercise with regional companies: Career speed dating • Workshop on salary negotiations • And many more 	
Literature:	
None	
Comments:	
No comments	

Further workshops on cultural integration			
Course code:	Course language	Course duration	
	English	Block course, 4 hours	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	External provider		
Workload:	Contact hours:	4 hours	
	Self-study:	10 hours	
	Total time required:	2 p.m.	
Lecture types:	SU/Ü – seminar-based teaching with integrated exercises		
Recommended prerequisites:			
None			
Intended learning outcomes:			
<p>Participants have the opportunity to take part in various workshops and activities aimed at cultural integration. These workshops and activities prepare participants for everyday life in Germany, which is crucial for long-term satisfaction and actively contributes to the decision to stay in Germany after completing their studies. The following or similar workshops and activities are offered on a regular basis:</p> <ul style="list-style-type: none"> • Language games evening 			

<ul style="list-style-type: none"> • Workshop on finding shared accommodation (How to find a shared flat in Germany) • Country evenings, organised and run by students from all over the world • And many more
Literature:
None
Comments
None

3.4 Orientation events: Practical life skills in Ingolstadt, Bavaria and Germany

Orientation events are also an important part of the SHIFT Study Sprint SCE preparatory programme and are offered continuously from admission to completion of the programme to facilitate arrival and settling in Germany.

Social skills and onboarding			
Course attributes:	Course language	Course duration	
	English	40	
Course coordinator:	SHIFT Team, International Office		
Lecturer:	Offered by the International Office		
Workload:	Contact hours:		40
	Self-study:		0 hours
	Total time commitment:		40 hours
Course topics:	Practical life skills, such as shopping at supermarkets, drugstores, pharmacies; introduction to the German healthcare system and information on regular doctor's visits vs. medical emergencies; Rules and regulations at THI and in Ingolstadt/Germany (e.g. address registration, GEZ, etc.); student households (shared flat concept, waste separation, quiet hours, etc.); introduction to THI systems and platforms; excursions to important institutions in Ingolstadt; and much more.		
Lecture types:	<ul style="list-style-type: none"> • Practical exercises and workshops • Excursions • Discussions and group work • Guest lectures 		
Intended learning outcomes:			

Participants develop everyday skills:

- Participants should acquire basic skills for everyday life, such as independent, student-oriented housekeeping in a German context (student residence, shared flat) and health care.
- They should be able to cope with the challenges of everyday life independently and efficiently.

Participants understand regional characteristics:

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

Participants use public and private services:

- Participants should learn how to use public services and facilities in Ingolstadt efficiently, e.g. public transport, health facilities, educational opportunities.
- They should also know what private services are available to them and how to use them, e.g. insurance, banks, housing, legal advice and many more.

Participants integrate socially and into the community:

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

Content:

- Everyday life and housekeeping:
 - Basics of housekeeping: shopping, maintenance, special features in Germany (ventilation, waste separation, cleaning schedule, quiet hours, etc.)
- Health care: 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
- Use 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: involvement and participation
- Legal and bureaucratic basics:
 - Important legal basics: registration requirements, right of residence, labour law
- Bureaucratic procedures:
 - Applications, forms, dealing with authorities
- Leisure and recreation:
 - Leisure activities at THI and in Ingolstadt: parks, sports clubs, cultural institutions, student clubs and initiatives

<ul style="list-style-type: none"> ○ Excursion destinations in the surrounding area: Sights and natural beauty spots in Bavaria ○ Planning and organising leisure activities
Literature:
None
Comments:
No comments

3.5 Practical career preparation

In addition to the compulsory modules and events, participants in the SHIFT Study Sprint SCE have the opportunity to address the topic of practical career preparation during the preparatory programme. Participation enables them to prepare for the compulsory internship at an early stage and to take advantage of CSS support.

Practical career preparation			
Course attributes:	Course language	Course duration	
	English	40 hours	
Course coordinator:	SHIFT staff at CSS		
Lecturer:	Offered by CSS		
Workload:	Contact hours:	40 hours	
	Self-study:	0 hours	
	Total time required:	40 hours	
Lecture types:	Internship or career preparation activities: <ul style="list-style-type: none"> • Lectures/workshops on a range of practical career topics • Exercises on job applications and working life • Excursions to local companies and institutions • Preparation for and participation in CONTACT 		
Recommended prerequisites:			
None			
Intended learning outcomes:			
Participants should: <ul style="list-style-type: none"> • Become familiar with the regional economic structure • Get to know local and regional businesses • Learn the essentials for job applications and professional life • Recognise the importance of networking 			
Contents:			
<ul style="list-style-type: none"> • Introduction to the local and regional job market • Work culture and ethics • Excursions to companies 			
Literature:			

None
Comments:
No notes