



Technische  
Universität  
Braunschweig



FAKULTÄT FÜR  
MASCHINENBAU



# Welcome to TU Braunschweig and SEPP

Christa Hellert, October 10th, 2024

Die „Fakultät für Maschinenbau“ / „Faculty of Mechanical Engineering“ – Who we are...



# Structure of TU Braunschweig



Technische  
Universität  
Braunschweig

## Six faculties

Carl-Friedrich-  
Gauß-Faculty

Faculty of Life  
Sciences

Faculty of  
Architecture,  
Civil Engineering  
and  
Environmental  
Sciences

Faculty of  
Mechanical  
Engineering

Faculty of  
Electrical  
Engineering,  
Information  
Technology,  
Physics

Faculty of  
Humanities  
and  
Educational  
Sciences

Central Facilities  
(Library – GITZ – Language Centre – Sports Centre – etc.)

3.800 employees  
16.100 students  
100 apprentices



Technische  
Universität  
Braunschweig

# Faculty of Mechanical Engineering



24 Institutes  
34 Professors  
800 Faculty and Staff

Geschäftsstelle der Fakultät für Maschinenbau / faculty's office

13 study programmes  
3.000 students



# The Faculty's Office

Your point of contact:

Schleinitzstraße 20  
38106 Braunschweig  
service-fmb@tu-braunschweig.de  
0531 / 391-4040

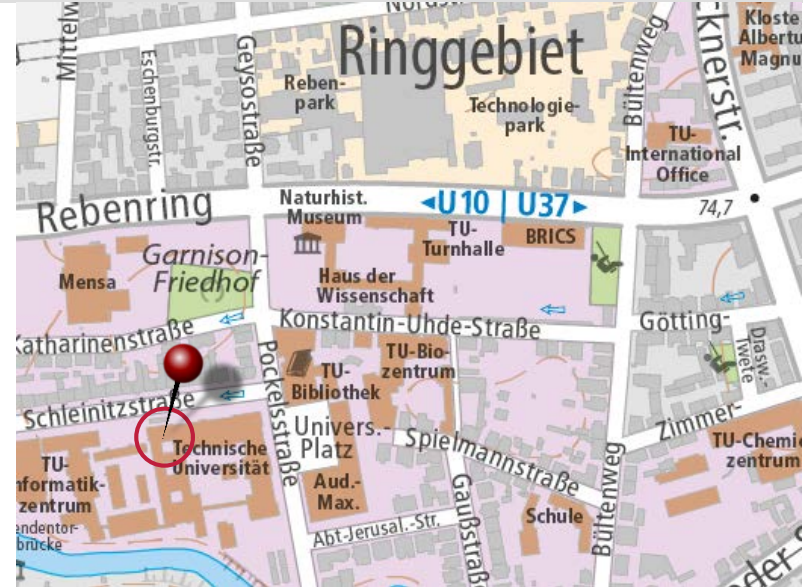
SERVICEhours: **Mon, Tue:** 9:30 am – 12:00 pm  
**Thurs:** 9:30 am – 12:00 pm and 1:30 – 4:00 pm

**SERVICEpoint:** Call or come by during SERVICEhours, no appointment necessary

**SERVICEconsultation:** Consultations during SERVICEhours, please book an appointment online via Timeacle

**SERVICEonline:** 24/7, <https://www.tu-braunschweig.de/fmb/studium>

Please contact the SERVICEteam preferably by e-mail.





# The faculty's website

## <https://www.tu-braunschweig.de/fmb>

🏠 > Struktur > Fakultäten

## Fakultät für Maschinenbau

### Maschinenbau@TU Braunschweig

Mit rund 3.000 Studierenden in fünf Bachelor- und acht Masterstudiengängen zählt die Fakultät für Maschinenbau zu den größten Fakultäten der Technischen Universität Braunschweig. Unsere Institute forschen und lehren in den Bereichen Kraftfahrzeugtechnik, Luft- und Raumfahrttechnik, Energie- und Verfahrenstechnik sowie Produktions- und Systemtechnik. Zahlreiche internationale Kooperationen bereichern Studium und Forschung für Studierende, Wissenschaftler\*innen und unsere internationalen Gäste. Wir freuen uns über ihr Interesse und laden Sie ein, unsere Fakultät auf den folgenden Seiten näher kennenzulernen. Herzlich willkommen!

Aktuelles →

Sprechzeiten und Kontakt →



#### ▼ Fakultät für Maschinenbau

Aktuelles

Termine

Pinut

Studium

Promotion

Habilitation

Institute & Forschung

International

Mentor.ING und AlumnING.

Gleichstellung und Familie

Tag des Maschinenbaus

Masch.Bau - Studierendenhaus

Fachschaft

Dekan | Studiendekan

- Latest news
- Important dates and deadlines
- Information about your course of study; downloads; forms etc.
- The faculty's institutes
- Outgoings and Incomings, double-degrees

# The Faculty's Office

## SERVICeteam (study guidance/counselling, examination office, internship office)



**Contact:**

[service-fmb@tu-braunschweig.de](mailto:service-fmb@tu-braunschweig.de)

0531 / 391-4040

# The Faculty's Office Course Coordinators

Course coordinators are responsible for the management and development of the faculty's study programmes, for accreditation procedures and quality management and they are contact persons for faculty and staff with any questions regarding the study programmes. Please contact the course coordinators by e-mail.



## Contact:

[studiengangsmanagement-fmb@tu-braunschweig.de](mailto:studiengangsmanagement-fmb@tu-braunschweig.de)



# The Faculty's Office

Managing Director, Secretary's office, PhD, PR and communication, AlumnING



# The Faculty's Office

## Dean and Dean of Studies



Prof. Dr.-Ing. Markus Böl  
Dean



Prof. Dr. Georg Garnweitner  
Dean of Studies

# Your contact with the Faculty's Office

- Information regarding your studies or any other personal information can only be provided using your TU Braunschweig e-mail address.
- Always give your name and student number.



# Courses of study at the Faculty of Mechanical Engineering

## Bachelor programmes (6 semesters)

- Batterie- und Wasserstofftechnologie
- Bio-, Chemie- und Pharmaingenieurwesen
- Maschinenbau
- Sustainable Engineering of Products and Processes
- Wirtschaftsingenieurwesen Maschinenbau

## Master programmes (4 semesters)

- Bio- und Chemieingenieurwesen
- Fahrzeugtechnik und mobile Systeme
- Luft- und Raumfahrttechnik
- Maschinenbau
- Metrologie und Messtechnik
- Nachhaltige Energietechnik
- Pharmaverfahrenstechnik
- Wirtschaftsingenieurwesen Maschinenbau

# First year





# Course formats

- **Lecture (Vorlesung)**  
Theoretical foundations of a subject are taught in the classroom
- **Excercise (Übung)**  
Lecture contents are applied to examples and problems
- **Small exercise groups / tutorials (kleine Übung)**  
Individual problem-solving in a small tutorial group
- **Laboratory (Labor)**  
Theoretical foundations and scientific methods are applied in experiments
- **Block course (Blockveranstaltung), project work (Projektarbeit) etc.**



# Modules

- During your bachelor studies you will have to complete a certain number of “modules”, specified in the specific part of the examination regulations.
- Modules contain a specified number of courses (Lehrveranstaltungen) such as lectures, exercises, laboratories...
- Modules are completed with an examination element (Prüfungsleistung) and/or course achievement / coursework (Studienleistung).
- You will receive “credit points” for completed modules. Credit points are a measurement of a module’s workload (180 CP need to be completed for the bachelor’s degree).

# Curriculum

## Compulsory modules (85 credit points)

- Fundamentals of Mathematical Science and Information technology (31 CP)
- Sustainability (17 CP)
- Fundamentals of Engineering (23 CP)
- Engineering Applications (14 CP)

## Specialisation Area (63 CP)

- Sustainable Production *OR*
- Sustainable Mobility *OR*
- Sustainable Energy and Process Engineering

## Integrated Module (8 CP)

## Internship (10 CP)

## Bachelor's Thesis (14 CP)

# Model Curriculum

The model curriculum of the course programme is a suggestion of how to organize your six semesters – you are free to organize it differently. Especially if you would like to take “Faszination Maschinenbau” in German, please attend the lecture in your first semester.

Semester 1		Semester 2		Semester 3		Semester 4		Semester 5		Semester 6	
Modul	LP	Modul	LP	Modul	LP	Modul	LP	Modul	LP	Modul	LP
Ingenieurmathematik A (Mathematics for Engineers A)	8	Ingenieurmathematik B (Mathematics for Engineers B)	8	Thermodynamik 1 (Thermodynamics 1)	5	Grundlagen des Konstruierens (Fundamentals of Engineering Design)	8	Pflicht/Wahlpflicht VT	5	Collaborative Work - Labor (Laboratory)	2
Technische Mechanik 1 (Engineering Mechanics 1)	8	Technische Mechanik 2 (Engineering Mechanics 2)	5	Strömungsmechanik (Fluid Mechanics)	5	Regelungstechnik (Control Theory)	5	Pflicht/Wahlpflicht VT	5	Pflicht/Wahlpflicht VT	5
Werkstoffwissenschaften (Materials Science)	6	Faszination Maschinenbau (Fascination Mechanical Engineering)	5	Digitale Werkzeuge (Digital Tools) - Einführung in die Programmierung	2	Digitale Werkzeuge (Digital Tools) - Methoden und Algorithmen	3	Pflicht/Wahlpflicht VT	5	Praktikum (internship)	10
Environmental and Social Sustainability in Engineering - Teil 1	3	Environmental and Social Sustainability in Engineering - Teil 2	3	Energy Systems	5	Pflicht/Wahlpflicht VT	5	Pflicht/Wahlpflicht VT	5	Abschlussmodul (bachelor's thesis)	14
		Sustainable Business Economics	6	Pflicht/Wahlpflicht VT (compulsory/elective modules specialisation)	5	Pflicht/Wahlpflicht VT	5	Pflicht/Wahlpflicht VT	5		
Überfachliche Profilbildung (Integrated Module)	4	Überfachliche Profilbildung (Integrated Module)	4	Pflicht/Wahlpflicht VT	5	Pflicht/Wahlpflicht VT	5	Collaborative Work - Projektarbeit (project work)	6		
29		31		27		31		31		31	
Summe 6 Semester: 180											

# First year model curriculum – option 1

## First semester (winter)

- Mathematics for Engineers A (8 CP)
- Materials Science (6 CP)
- Engineering Mechanics 1 (8 CP)
- Environmental and Social Sustainability in Engineering part 1 (3 CP)
- Integrated Module courses (4 CP)

## Second semester (summer)

- Mathematics for Engineers B (8 CP)
- Fascination Mechanical Engineering (5 CP)
- Engineering Mechanics 2 (5 CP)
- Sustainable Business Economics (6 CP)
- Environmental and Social Sustainability in Engineering part 2 (3 CP)
- Integrated Module courses (4 CP)

Semester 1		Semester 2	
Modul	LP	Modul	LP
Ingenieurmathematik A (Mathematics for Engineers A)	8	Ingenieurmathematik B (Mathematics for Engineers B)	8
Technische Mechanik 1 (Engineering Mechanics 1)	8	Technische Mechanik 2 (Engineering Mechanics 2)	5
Werkstoffwissenschaften (Materials Science)	6	Faszination Maschinenbau (Fascination Mechanical Engineering)	5
Environmental and Social Sustainability in Engineering - Teil 1	3	Environmental and Social Sustainability in Engineering - Teil 2	3
		Sustainable Business Economics	6
Überfachliche Profilbildung (Integrated Module)	4	Überfachliche Profilbildung (Integrated Module)	4
29		31	



# First year model curriculum – option 2

## First semester (winter)

- Mathematics for Engineers A (8 CP)
- Materials Science (6 CP)
- Engineering Mechanics 1 (8 CP)
- Environmental and Social Sustainability in Engineering part 1 (3 CP)
- Faszination Maschinenbau (5 CP)

## Second semester (summer)

- Mathematics for Engineers B (8 CP)
- Fascination Mechanical Engineering (5 CP)
- Engineering Mechanics 2 (5 CP)
- Sustainable Business Economics (6 CP)
- Environmental and Social Sustainability in Engineering part 2 (3 CP)
- Integrated Module courses (5 CP)

Semester 1		Semester 2	
Modul	LP	Modul	LP
Ingenieurmathematik A (Mathematics for Engineers A)	8	Ingenieurmathematik B (Mathematics for Engineers B)	8
Werkstoffwissenschaften (Materials Science)	6		
Technische Mechanik 1 (Engineering Mechanics 1)	8	Technische Mechanik 2 (Engineering Mechanics 2)	5
Environmental and Social Sustainability in Engineering - Teil 1	3	Environmental and Social Sustainability in Engineering - Teil 2	3
Faszination Maschinenbau (Fascination Mechanical Engineering)	5	Sustainable Business Economics	6
		Überfachliche Profilbildung (Integrated Module)	5
30		27	

# Schedule Bachelor Sustainable Engineering of Products and Processes

## Semester 1 (winter 2024/25)

	Mon	Tue	Wed	Thurs	Fri
8:00 – 8:45		Technische Mechanik 1 (VL)	Mathematics for Engineers A / Ingenieurmathematik A (VL)	Werkstoffwissenschaften (VL)	Technische Mechanik 1 (VL)
8:45 – 9:30		Technische Mechanik 1 (VL)	Mathematics for Engineers A / Ingenieurmathematik A (VL)	Werkstoffwissenschaften (VL)	Technische Mechanik 1 (VL)
9:45 – 10:30	Engineering Mechanics 1 (VL)			Engineering Mechanics 1 (VL)	Mathematics for Engineers A / Ingenieurmathematik A (UE)
10:30 – 11:15	Engineering Mechanics 1 (VL)			Engineering Mechanics 1 (VL)	Mathematics for Engineers A / Ingenieurmathematik A (UE)
11:30 – 12:15	Engineering Mechanics 1 (UE)	<i>Faszination Maschinenbau (VL)</i>			
12:15 – 13:00	Engineering Mechanics 1 (UE)	<i>Faszination Maschinenbau (VL)</i>			
13:15 – 14:00		Technische Mechanik 1 (UE)	<i>Faszination Maschinenbau (PRO)</i>	Werkstoffwissenschaften (VL)	
14:00 – 14:45		Technische Mechanik 1 (UE)		Werkstoffwissenschaften (UE)	
15:00 – 15:45			Materials Science (VL)		
15:45 – 16:30			Materials Science (VL)		
16:45 – 17:30		Environmental and Social Sustainability in Engineering (VL)	Materials Science (VL)	Mathematics for Engineers A / Ingenieurmathematik A (VL)	
17:30 – 18:15		Environmental and Social Sustainability in Engineering (VL)	Materials Science (UE)	Mathematics for Engineers A / Ingenieurmathematik A (VL)	

# Important notes about freshmen courses in winter 2024/25

- “Kleine Übungen”/small exercise groups are offered for the modules “Mathematics A” and “Engineering Mechanics 1” – you will have to sign up for a tutorial group; more information will be given during the first class.
- Freshmen courses start on Oct 16th (Wed) except for “Environmental and Social Sustainability in Engineering” (start: Oct 15th, 2024)
- German language classes: Registration has started, classes start on Oct 21st



# Internship



# Internships - Overview

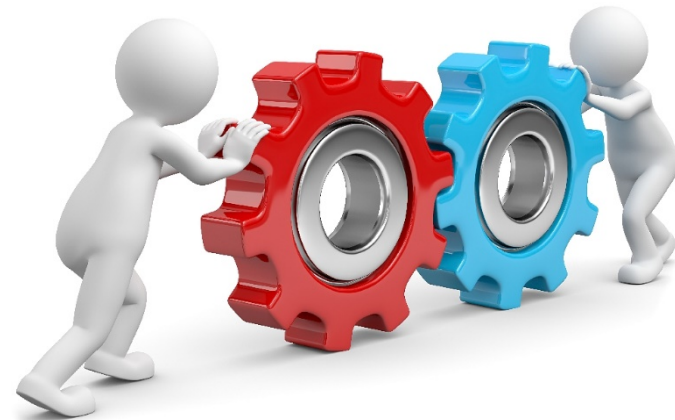
Before your bachelor studies - Basic Internship

8 weeks

During your bachelor studies - Engineering Internship

10 weeks

- The basic internship is meant to be an introduction to industrial manufacturing and to teach key fundamental knowledge, specially in metal processing such as filing, spinning, milling, welding.
- Please find more information about your internship and your internship report in the documents you received from the Enrolment Office as well as on our website:  
<https://www.tu-braunschweig.de/fmb/studium/praktikum>





# Basic Internship

- You have completed your basic internship already?
  - Upload your report at „Praktikum Online“ (see also next slide)
- You have not yet completed your basic internship?
  - Hand in a request for deferment to the SERVICEteam (e.g. illness, rejection of application or other reasons)
  - „Fachpraxisunterricht“ or vocational training might get recognized – hand in your original documents to the SERVICEteam
- **Deadline: November 1st, 2024**
- If your request for deferment has been accepted, you need to complete the basic internship by the end your fourth semester.



# „Praktikum Online“

- „Praktikum Online“ can be found here:  
[www.tu-braunschweig.de/fmb/studium/praktikum](http://www.tu-braunschweig.de/fmb/studium/praktikum)

## Praktikum Online im TUconnect-Portal

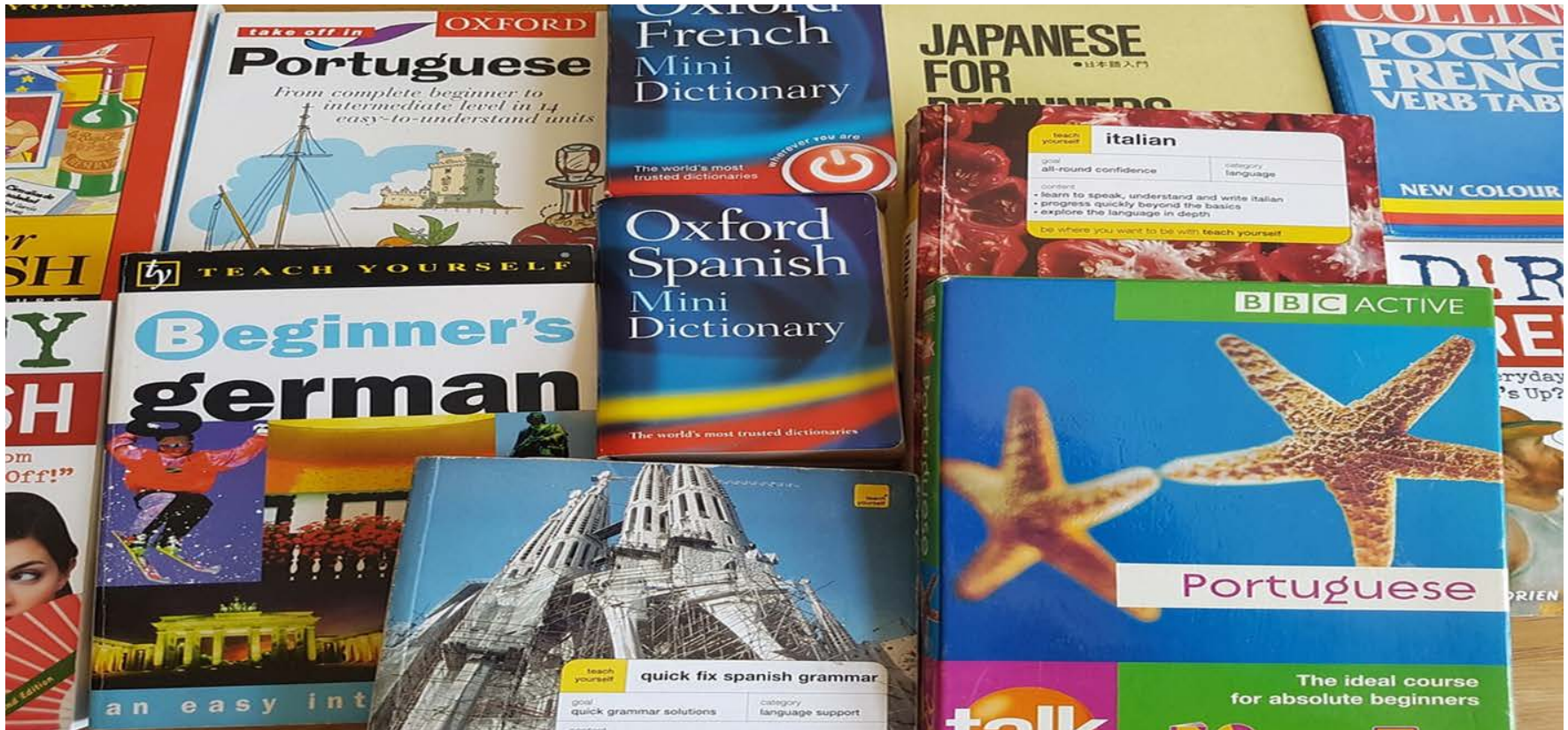
### Funktionen von Praktikum Online:

- Praktika online anmelden
- Praktikumsbericht hochladen
- die aktuelle persönliche Praktikumsübersicht einsehen
- geeignete Praktikumsbetriebe suchen



- In order to register your internship and to upload your documents and reports you need your GITZ-login (y-Nummer and password) and your student ID („Matrikel-Nummer“)

# German language courses



# Regulations

## German language proficiency level:

- Enrolment: CEFR level A2 or higher
- End of third semester: TestDaf TDN 3 / DSH 1 (CEFR level B 2.2)

# Courses at university's Language Center

- Regular courses during lecture period:

Deutsch A1 (6 CP)

Deutsch A2 (6 CP)

Deutsch B1.1 (4 CP)

Deutsch B1.2 (4 CP)

Deutsch B2.1 (4 CP)

Deutsch B2.2 (4 CP)

- Compact courses during lecture-free period
- Test-Daf Preparation course
- Placement test at Language Center

# German courses

- You should start with your German courses right away.



- As SEPP student, your German language class registration will get prioritised. Please watch out for information on deadlines etc..
- You will need CEFR level B2.2 when you take the TestDaf examination.
- Course Coordinator German for SEPP and CSE at the Language Center: Friederike Weidauer (f.weidauer[at]tu-braunschweig.de)



Also good to know...





# Student House „Masch.Bau“ & Student Council

The **student house Masch.Bau** offers 78 modern study spaces and common rooms for students of all faculties to study and work together. A total of 16 study rooms for up to four to six people each are available on three floors as well as a room with individual workplaces and a family room. A large conference room and a roof terrace are also located in the building.

The modern offices of the **student council** are located on the ground floor, as well as the "Klappe" where you can receive old examination papers. Students will be granted access to the building for the duration of their reservation with their student ID "TUcard". Students of the Faculty of Mechanical Engineering have a pre-booking right. The building is open 24/7.

- Langer Kamp 19 D, 38106 Braunschweig
- Booking system: <https://www.tu-braunschweig.de/fmb/studierendenhaus/reservierung>
- [Further information](#)



# Information event about Examinations

December 6th, 2024, at 11.30 am in room PK 14.514  
(Universitätsplatz 2 - Forumsgebäude, 5. OG)

- Examination regulations
- Examination dates
- Registration of examinations and deregistration
- ...



# Introduction to the university's library

How to register at the library? How to check out books? Are there study spaces available? – This tour will address the most important questions you might have about the university's library and will introduce you to its services.

November 7th, 2024, at 10 am and 11 am

- Please register\* via e-mail by November 5th, 2024:  
[dzulia.terzijska@tu-braunschweig.de](mailto:dzulia.terzijska@tu-braunschweig.de)

\*tour in English also possible, please express your interest in your e-mail



# Gauß-IT-Zentrum (GITZ)

Information about the services of the university's IT-Center:

<https://www.tu-braunschweig.de/it/erstsemester>

- Important information on you y-number
- General information for new students: “Don’t Panic”
- Information event on **October, 24th, at 11.30 am** (location: SN 19.7)



# Studying abroad – Information events International House

WEGE INS AUSLAND & STUDIEREN IN EUROPA – Information events offered by the International House.

- The International House offers information events about the many options to study abroad.
- Every first Wednesday of the month (please check for any changes on the respective website)

Further information: <https://www.tu-braunschweig.de/international-house/news-and-events>



# Welcome events and programmes

## Welcome week – International House

- For all international students who are new to Braunschweig.
- Information events, open office hours, welcome reception, welcome events such as pub crawls etc.
- Please check the website for more information about the programme: <https://www.tu-braunschweig.de/en/welcome-programme>

**Facebook group** for International Students at TU Braunschweig:  
<https://www.facebook.com/groups/internationalstudentstubs/>

## inTU

- inTU: For German and international first semester students
- Welcome event and Kick-off: Oct 22nd, 6 pm, location: PK 11.1
- More information and registration: <https://www.tu-braunschweig.de/intu>

# Welcome events and programmes

**First semester welcome** – Oct 14th, 9 am – Braunschweig Stadium

- For all freshmen

**Information Fair “Studium ist mehr...”** – Oct 14th, 10.30 am – 12.30 pm – University Square

- Service institutions, faculties, and student initiatives present themselves

**Studium Generale** – Oct 15th, 10 am – 5 pm

- Attend interesting lectures across all professional fields



## Last but not least...

- Please check the faculty's and the university's websites for any news regarding your study programme and regulations at TU Braunschweig.
- Check your „...[at]tu-braunschweig.de“ e-mail regularly.
- Wishing you all the best for your start at TU Braunschweig and the best of luck and success in your studies.
- Stay safe and healthy!

Best wishes

Faculty's Office Mechanical Engineering

