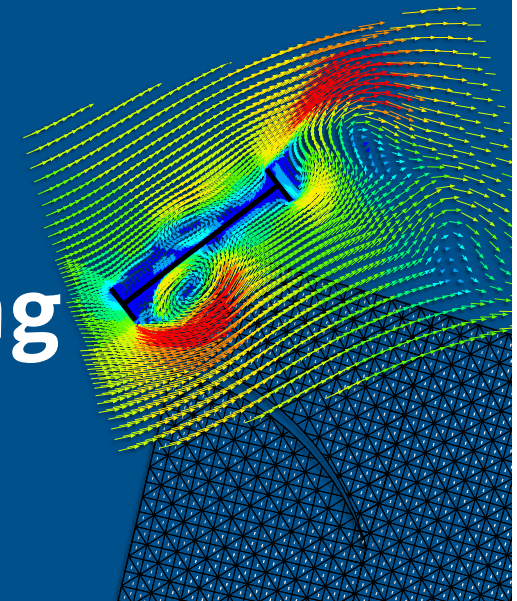
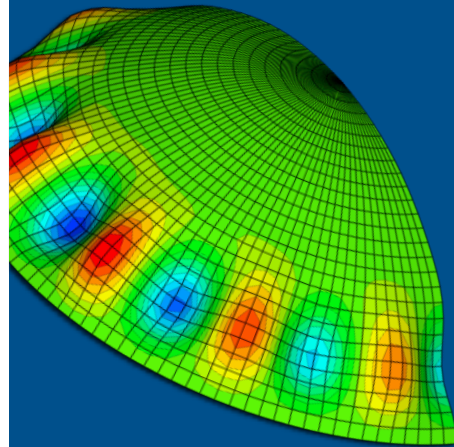




Technische
Universität
Braunschweig

Computational Sciences in Engineering



“How to ...” – Intro to CSE

- Annika Kleinwächter, Program Coordinator CSE

Agenda



- Introduction
- Mentor Program
- Direction of Study
- Submission of Forms
- Your Study Plan
- Semester Schedule
- Misc.

Annika Kleinwächter

- Program Coordinator CSE -



- Questions around the overall program
 - Study plan
 - Exams
 - Going abroad
 - ...
- Academic Counseling
- Internal and External Communication
- Application and Admission

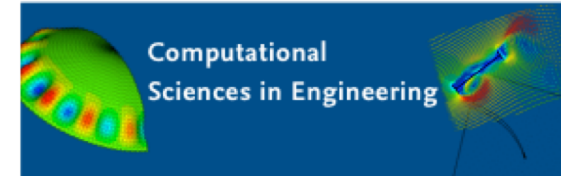
Katharina Klee

- Examination Office CSE -



- Questions around
 - Examinations
 - Examination regulations
 - Study plan (submission)
 - Specialization project and master thesis registration

Mentor Program



Quick Facts

- Every CSE student has to have a mentor
- Reach out to a Professor of TU Braunschweig and ask them to be your mentor
- First meeting has to take place before the start of the semester

submission: Oct 23

- Mentor helps with choices in study plan
- Mentor has to sign off on
 - study plan
 - specialization
 - mentor form

Without your mentors signature/ approval you may not take any exams!

Mentor Sheet



- Complete form **prior** to meeting w/mentor and discuss
 - which classes (compulsory elective / elective) are you planning to take and why?
 - prepare a short abstract of your bachelor thesis (1 page max)
 - prepare to answer the question: “What do you want to do once you graduate?” and “How is CSE / the classes you chose relevant to that goal?”
- Form is only valid with signature of mentor
- Form is due **Oct 23**

Note: All mentors are aware that you might **switch to another mentor later** on in your studies.

Technische Universität Braunschweig **Computational Sciences in Engineering**

Mentor Form CSE

Information about the mentee (student)

Last Name: _____
First Name: _____
Student ID/Matricule Number: _____ Year of Enrollement: 20__

I hereby confirm that I have read and understood the CSE examination regulations (Besonderer Teil der Prüfungsordnung CSE) and the general examination regulations (Allgemeiner Teil der Prüfungsordnung der TU Braunschweig).

Place & Date Student's signature

I hereby certify that I am aware of and accept the guidelines for scientific work.

Place & Date Student's signature

Information about the mentor (professor)

Last Name: _____
First Name: _____
Institute: _____

I agree to be a mentor to the above mentioned student. We have discussed with their study plan.

Place & Date Mentor's signature & Institute's stamp


Submit to: CSE Office (Beethovenstr. 51, 38106 Braunschweig) Office Hours: MON 10-12

Direction of Study Form

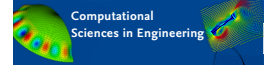


Direction of Study Form

- Fill out prior to your meeting w/ your mentor
- It is only valid with the signature of your mentor
- It is due **Oct 23**



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Direction of Study

Information about the student:
Last name: _____
First name: _____
Student ID number (Matrikelnummer): _____

I choose the following direction of study for my CSE master program (only check one!):

- CSE-CE** Civil Engineering
- CSE-ME** Mechanical Engineering
- CSE-EE** Electrical Engineering
- CSE-MC** Mathematics and Computer Science

I hereby certify that I am aware of both the CSE examination regulations (Besonderer Teil der Prüfungsordnung) and the general examination regulations (Allgemeiner Teil der Prüfungsordnung).

_____ Place & Date Student's signature

.....

I agree with the direction of study of my mentee.

_____ Place & Date Mentor's signature & institute's stamp

Submit to: CSE Office (Beethovenstr. 51, 38106 Braunschweig); Office Hours: MON 10-12

Submission of Forms



1. Fill out respective document with all details & as discussed w/ your mentor
2. Send form to mentor for approval via email or during the meeting
3. Submit completed form + mentor approval to CSE [cse-office@tu-Braunschweig.de](mailto:cse-office@tu-braunschweig.de) or drop them off (mailbox outside our offices if you get here outside the office hours)

Note: Only completed documents (form + mentor's approval) will be processed.

Your Study Plan

Rules and Regulations to selecting classes

- 6 Compulsory (30 CP), Sem. 1 + 2
- 5 Compulsory Electives (25 CP)
- 4 Electives (20 CP)
- 1 Student Project (15 CP)
- 1 Master Thesis (30 CP)

Intro to CE (compulsory/ 2 credits)

- attendance of 7 lectures of lecture series
- attendance Intercultural Training (Oct 9+10)
- either attendance workshop „scientific writing“ or company exkursion + report
- only class without a grade



Study Plan (Exam. Regul. 2019)

Name: _____
Matrikel Number: _____ Year of Enrollment: 20__



Specialization:
CM CE EE ME

1 st Semester		30 CP total	
1st Semester - BCC (30 CP)	Introduction to Computational Engineering (4398501)	2 CP (comp.)	
	Foundations (Compulsory Elective, choose 2)	10 CP (comp. elec.)	
	2 modules		
	<i>Module</i>	<i>Date</i>	<i>Signature</i>
	Solid Mechanics (4228011)		
	Strukturdynamik GER* (4398441)		
	Fluid Mechanics (4226921)		
	Thermodynamics (SS) (4228771)		
	Systemics (SS) (4226981)		
	Pattern Recognition (SS) (2424571)/ (GER*- WS)		
Computer Network Engineering (2416751)			
Grundlagen des Mobilfunks GER* (2424491)			
Elektromagn. Verträglichkeit GER* (2419061)			
Foundations of Mathematical and Computational Sciences (MCS)	Partial Differential Equations (PDE) (1294061)	5 CP (comp.)	
	Ordinary Differential Equations (ODE) (1294051)	5 CP (comp.)	
	Algorithms & Programming (Lab) (4398481)	8 CP (comp.)	
2 nd Semester		30 CP total	
2 nd Semester - ECC (20 CP) + IDC-LEC (10 CP)	Computational Methods (Compulsory Elective, choose 1)	5 CP (comp. elec.)	
	1 module		
	<i>Module</i>	<i>Date</i>	<i>Signature</i>
	Introduction to FEM (4398471)		
	Introduction to FVM (1294101)		
	Numerical methods for ordinary and partial differential equations (1294041)	5 CP (comp.)	
	Scientific Computing (Compulsory Elective, choose 1)	5 CP (comp. elec.)	
	1 module		
	<i>Module</i>	<i>Date</i>	<i>Signature</i>
	Parallel/Distributed Computing I (4398511)		
Methods of Uncertainty Analysis and Quantification (2540421)			
Multi-Scale Methods (4398611)			
Date-Driven Modelling (4333015)			
Multidiscipl. Design Optimization (WS) (2515251)			
Optimierung GER* (WS (129408)/ SS (1294083))			
Inverse Probleme GER* (irregular) (1201841)			
Maschinelles Lernen mit neuronalen Netzen GER* (irregular) (1296591)			
Scientific Software Engineering - Lab (4398531)	5 CP (comp.)		
Specialisation (Elective)	10 CP (2 elec.)		
2 modules			
<i>Module</i>	<i>Date</i>	<i>Signature</i>	
1.			
2.			

* Language of instruction is German
comp. = compulsory | comp. elec. = compulsory elective (choose from pre-set number of classes) | elec. = elective

Your Study Plan



Rules and Regulations to selecting classes

- 6 Compulsory (30 CP), Sem. 1 + 2
- 5 Compulsory Electives (25 CP)
- 4 Electives (20 CP)
- 1 Specialisation Project (15 CP)
- 1 Master Thesis (30 CP)

Description of CSE classes

- Vorlesungsverzeichnis (Course Overview) der TU Braunschweig
<https://connect.tu-braunschweig.de/qisserver/pages/startFlow.xhtml? flowId=showCourseCatalog-flow& flowExecutionKey=e1s1>

Q&As Study Plan



Q: Can I take classes outside of the mandatory electives?

A: Yes, you may. A written statement supported by your mentor has to be submitted 2 weeks before semester (not lecture) start. We always inform you about the deadlines and process.

Q: Is there a minimum or maximum amount of classes that I need to take?

A: No, there is not. We recommend to take about 30 CP so that you can graduate after 2 years.

Note that many students graduate after 6 semester. This depends on their personal choices on classes, internships, studies abroad, etc.

Q: When I try to improve my grades which grade will count?

A: The better grade counts.

Q: Not all classes are offered during the winter term. What do I do?

A: You may take classes that planned to be taken in the second semester during your first and vice versa.

Semester Schedule



- Only classes that are marked „hybrid“ make online resources available.

Semester Schedule CSE Masterprogramm 1st Semester - WS 2023/24



*Hybrid means that you will be offered a means of taking the class either via joining the class, online lectures, etc.

	Montag	Dienstag	Mittwoch	Donnerstag	Freitag	
8.00 9.30	(hybrid*) Introduction to Computational Engineering TBA (Jänicke)	(hybrid*) ODE (V) PK 3.3 (Langemann)	Elektromagnetische Verträglichkeit (V) SN 23.1 (Enders)	Mustererkennung (Ü) by appointment SN 22.1 (Fingscheidt)	Grundlagen des Mobilfunks (Ü) SN 22.1 (Candido Ribeiro)	8.00 9.30
9.45 11.15		(hybrid*) PDE (V) PK 3.3 (Langemann)	(hybrid*) Solid Mechanics (V) SN 19.7 (Jänicke/ Meyer)		Grundlagen des Mobilfunks (V) SN 22.1 (Candido Ribeiro)	9.45 11.15
11.30 13.00	(hybrid*) 10:00 - 12:30 Fluid Mechanics (VÜ) H003 (Bauknecht)				(hybrid*) PDE (Ü) RR 58.4 (Langemann)	11.30 13.00
13.15 14.45	Mustererkennung (V) SN 22.1 (Fingscheidt)	12.15-14.00 Elektromagnetische Verträglichkeit (Ü) SN 23.1 (Enders)	(hybrid*) Algorithms and Programming (LAB) TBA (Wessels)	(hybrid*) Solid Mechanics (Ü) RR 58.4 (Jänicke/ Meyer)		13.15 14.45
15.00 16.30			(hybrid*) Algorithms and Programming (LAB) TBA (Wessels)	(hybrid*) PDE (Ü) RR 58.3 (Langemann)	Computer Network Engineering (V) HS 66.3 (Drummond)	15.00 16.30
16.45 18.15		Strukturdynamik (VÜ) TBA (Wüchner)			16.45-17.30 Computer Network Engineering (Ü) HS 66.3 (Drummond)	16.45 18.15
18.30 20.00						18.30 20.00

red = compulsory

V = Vorlesung / Lecture

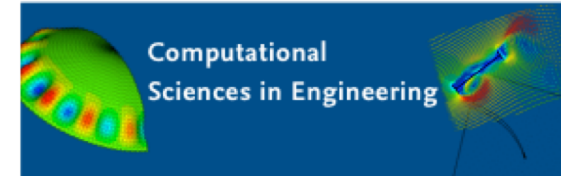
Ü = Übung / Exercise

TBA: to be announced

TBC: to be confirmed

Important: details are due to change. Check online / via Stud.IP to confirm time, date and location

Misc.



- TU BS Email
 - Official email address; official documents will be sent to university email only
 - > Your responsibly to check regularly
- Office Hours
 - Thursdays, 10-12 or by appointment
- Regulations, esp. examination regulations

