

# M.Sc. Computational Engineering

Welcome, Master Students!

Prof. Dr. Harald Köstler  
Dr. Felix Schmutterer



# M.Sc. Computational Engineering

## Agenda

- Welcome by Prof. Dr. Harald Köstler** (chair for system simulation)
- Welcome by Dr. Felix Schmutterer** (program coordinator)
- Introduction to the study program**
- Welcome by FSI CE** (student association)
- „Q&A“**



# M.Sc. Computational Engineering

## FAU Erlangen-Nuremberg



# Persons in Charge/Contact Persons

Prof. Dr. Dietmar Fey (**Program Director**)

(Professor for Computer Architecture)



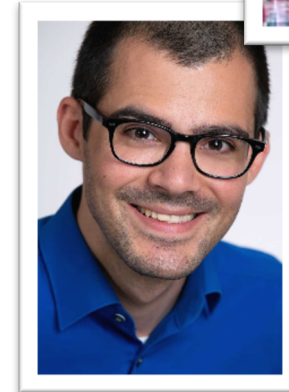
Prof. Dr. Harald Köstler (**Chair for System Simulation**)

→ advice for your studies

Dr. Felix Schmutterer (**Program Coordinator**)

- advice for your studies
- accreditation of coursework achievements
- support with formalities

[studienberatung-ce@fau.de](mailto:studienberatung-ce@fau.de)



- **General Study Advisory** (Informations- und Beratungszentrum, IBZ)  
**Elisabeth Bächle-Grosso**, Halbmondstr. 6-8, 91054 Erlangen, Room: 1.031  
[elisabeth.baechle-grosso@fau.de](mailto:elisabeth.baechle-grosso@fau.de)
  - general study-related problems
  - information about changing your study program (advisor for all engineering programs)
  - student visa issues (certificate for foreigners office)
- **Examinations Office Faculty of Engineering** (Prüfungsamt TechFak)  
**Heike Barthelmann**, Halbmondstr. 6, 91054 Erlangen  
[heike.barthelmann@fau.de](mailto:heike.barthelmann@fau.de)
  - managing exams, credits, grades online by „mein campus“ or by paper certificates, withdrawal from exams (due to illness etc.)
  - **Report on conditional subjects/“Auflagen“!**

- **International Office Faculty of Engineering**

**Christine Mohr**, Erwin-Rommel-Str. 60, 91058 Erlangen

[christine.mohr@fau.de](mailto:christine.mohr@fau.de)

- Information about studies/internship abroad
- General help and support for international students

- **Career Service**

[career-service@fau.de](mailto:career-service@fau.de) ; [www.career.fau.de](http://www.career.fau.de)

- Help with your job search (also student jobs)
- Support with applications
- Check of application documents
- Training for job interviews
- Useful workshops and seminars

- **Office for Gender and Diversity**

Bismarckstraße 6, 91054 Erlangen

[gender-und-diversity@fau.de](mailto:gender-und-diversity@fau.de)

- Advice for students with children
- Help for students with a migratory background
- Support for women (in cases of violence, harassment)
- Support for students experiencing discrimination of any kind (due to gender, ethnicity, religion, sexual orientation etc.)

- **Advice for students with disabilities or chronic diseases**

Dr. Jürgen Gündel, Schloßplatz 3/Halbmondstr. 6, 91054 Erlangen, Room: 1.032, [juergen.guendel@fau.de](mailto:juergen.guendel@fau.de)

- General advice and support (e.g. accessibility of buildings)
- Compensation of disabilities during examinations (e.g. more time)

- **Psychological support:**

Elizabeth Provan-Klotz

Psychologisch-Psychotherapeutische Beratungsstelle  
Computer Science Tower, Martensstr. 3, 91058 Erlangen, Room: 04.154

**Open consultation (anonymous drop-in sessions)**

+49 9131 85-27935

E-Mail: [elizabeth.provan-klotz@werkswelt.de](mailto:elizabeth.provan-klotz@werkswelt.de)

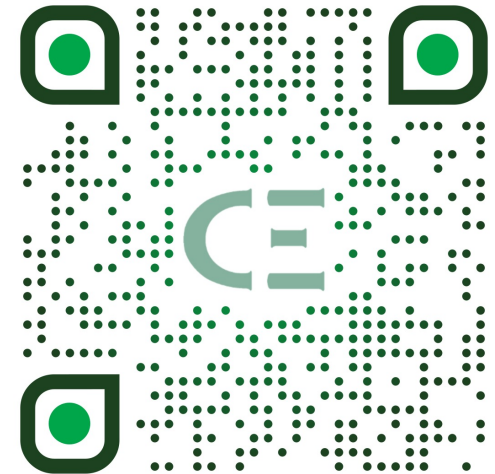


# How to find information?

One weblink to rule them all ...

<https://www.ce.studium.fau.eu>

<https://www.fau.de>



**...including today's presentation!**

# How to find information?

## General information on the internet: search the web for “FAU“ + keyword

- e.g.
- FAU + language courses
  - FAU + examinations office
  - FAU + psychological services
  - FAU + semester dates...

# M.Sc. Computational Engineering

## Program Structure



# Program Structure

- **General structure of the master program in CE**
  - **Mathematics (Mathematik) [min 20 ECTS]**. Mathematics modules for the master program can be taken from CE module catalogue and are offered by the department of applied mathematics and from the different departments of the School of Engineering. The modules must have a mathematical orientation.
  - **Computer Science (Informatik) [min 20 ECTS]**. The student can select modules from CE module catalogue offered by the Computer Science Chairs for the master program in computer science.
  - **Technical Application Field (Technisches Anwendungsfach, TAF) [min 20 ECTS]**. In this section the student can select modules from CE module catalogue offered by all master programs of the School of Engineering. The only exception are modules from the department of computer science.

# Program Structure

- **General structure of the master program in CE**
- **Seminar [5 ECTS].** The seminar is part of one of the elective subjects mentioned above. Therefore, students can take a seminar of a master program from the department of computer science, the department of applied mathematics or a department of the School of Engineering related to the TAF.
- **Master Thesis (Master-Arbeit) [30 ECTS].** The master's thesis can be registered at the registrar's office as soon as the student has successfully collected 70 ECTS point credits.
 

The topic of the thesis must be related to subjects studied by the student during the master program. A special thesis advisor is usually assigned to each student. The thesis may involve regular meetings with the thesis advisor and also the participation in a larger research group. It can be written in English. An oral presentation of the results of about 30 minutes as well as a consecutive discussion are obligatory.

Standard Study Plan Master

# Program Structure

Module title	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits			
	L	T	E	C		1st	2nd	3rd	4th
<b>Mathematics</b>									
Funktionalanalysis für Ingenieure	2	2			5	5			
Optimierung für Ingenieure	3	2			7.5		7.5		
Compulsory elective modules mathematics: Modules from the module catalogue pursuant to Section 40a (4) (min. 7.5 ECTS) <sup>1)</sup>	6	3			≥7.5				
<b>Computer science</b>									
Compulsory elective modules computer science: Modules from the module catalogue pursuant to Section 40a (3) (min. 20 ECTS) <sup>1)</sup>	12	8	4		≥20				
<b>Technical application fields (TAF)</b>									
Compulsory elective modules technical application field: Modules from the module catalogue for the chosen TAF pursuant to Section 40a (5) (min. 20 ECTS) <sup>1)</sup>	12	8	4		≥20				
Seminar				2	5				
Master's thesis					30				30
<b>Total SWS (semester hours)</b>	<b>35</b>	<b>23</b>	<b>8</b>	<b>2</b>					
<b>Total ECTS credits</b>					<b>120</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>

The standard progression through the master programme for full-time participants with 30 ECTS per semester.

# Program Structure

## Module Catalog Master Program Computational Engineering

### Summer Term 2021 – FPO 2018

Note that standard study plans for all technical application fields are found on the CE website!

#### General modules (max. 15 ECTS)

	Module Name	ECTS	Exam (optional)	Type
	Seminar	5		Full list is found in the UnivIS
	Programming Project	5 (10)		Full list is found in the UnivIS

#### Mathematics (min. 20 ECTS)

	Module Name	ECTS	Exam (optional)	Type
	Functional Analysis for Engineers	5	32301 / 32302	WS
	Optimization for Engineers	7.5	40501 / 40502	SS

Please note: An updated version of the catalogue will be published every semester!

<https://www.cs.studium.fau.eu>

Keep in mind – some courses might be offered in German and/or English!

## Types of Courses

- V/L: Vorlesung/lecture – generally no registration, attendance not mandatory
- Ü/E: Übung/Tutorium; exercise class/tutorial – usually start in the 2<sup>nd</sup> week, further details in the 1<sup>st</sup> lecture, attendance usually not mandatory
- P: Praktikum/Practical course (lab course) – attendance mandatory, early registration (see UnivIS)
- S: Seminar – attendance mandatory, early registration (see UnivIS)



## Types of exams/course achievement

- **Prüfungsleistung (PL)/Graded course achievement (gCA)**
  - schriftlich [written]
  - mündlich [oral]
  - Seminar (presentation and paper)
  
- **Studienleistung (SL)/Ungraded course achievement (uCA)**
  - e.g. exercise classes or practical courses
  - Hochschulpraktikum/academic laboratory
  - Forschungspraktikum/research laboratory

# M.Sc. Computational Engineering

## General Information



# What is “ECTS”?

- ***European Credit Transfer and Accumulation System***  
 Student workload required for the learning outcomes of a program
  - 30 credits: **recommended** workload per semester
  - 1 credit: ≈ 25-30 working hours (attendance-based learning + self study!)
  
- You will find information on ECTS in the module catalogs, in the online information system UnivIS, on your Master’s certificate/Transcript of Records



## Semesters & Exams

- Regular duration of studies: 4 semesters/two years  
(can be extended to 5 by re-registering + paying the fee)
- Semester: lecture period (14/15 weeks) + lecture-free period ( $\approx$ 12 weeks)
- Two exam periods: first 2 weeks and last 3 weeks  
of the lecture-free period (“holidays”)
- Failing an exam: 2<sup>nd</sup> + 3<sup>rd</sup> chance in the following two semesters (**mandatory** registration)  
– exception: conditional subjects/“Auflagen” (max. 2 chances, i.e. 1 year!)
- You can/must only take exams if you **register** for them.
- **Withdrawal** from registered exams: until 3 working days (Mon – Fri) before the exam without a reason – or later in case of illness/severe reasons (medical/other certificate)

## Semesters & Exams

### Winter semester 2021/22 (Oct. 1, 2021 – March 31, 2022):

Lecture Period:	<b>October 18, 2021 – February 11, 2022</b>
Exam Registration:	<b>November 30, 2021 – December 13, 2021 (preliminary)</b>
Re-Registration for SS 2022:	<b>February 1-8, 2022</b>
Semester break (lecture-free):	<b>December 24, 2021 – January 6, 2022</b> <b>February 12, - March 31, 2022</b>
Exams:	<b>February &amp; March / April</b>

**[www.fau.eu/study/current-students/semester-dates/](http://www.fau.eu/study/current-students/semester-dates/)**

## Conditional Subjects/“Auflagen”

- **Must be passed within one year.**

Otherwise, they will prevent successful re-registration for the 3<sup>rd</sup> semester. **No exceptions!**

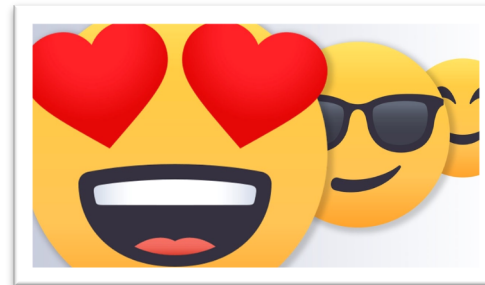
- **After successful completion of conditional subjects:**  
**Actively inform** Mrs. Barthelmann (Examinations Office)!
- **Examination results of the 2<sup>nd</sup> semester might be published late.**  
If this is the case, contact your lecturer to get the results faster.

## Foreign Language Training

Sprachenzentrum (Language Center), Bismarckstraße 1; [www.sz.fau.de](http://www.sz.fau.de)

- Courses during the lecture period are **free of cost**.
- Intensive courses (with a fee) during the semester break
- **Registration** is required for all courses.
- Registration for **German courses**: online (+ in person; **open as of now**); **highly recommended for internships & future job!**
- Recommended languages to prepare for studying abroad:  
e.g. English, Spanish, Portuguese

Many of you will want to stay in Germany ...



# M.Sc. Computational Engineering

The Student Association for Computational Engineering (FSI CE)





# Who are we, and what do we do?

- We give information and support regarding your studies, student-life, Erlangen and more.
- We organize different social events like BBQs, Pubnights or Beer-Pong-Tournaments :)
- We offer you a collection of learning materials like for example old exams, books, lecture notes.
- We help you if you have any problems with your professors or studies.

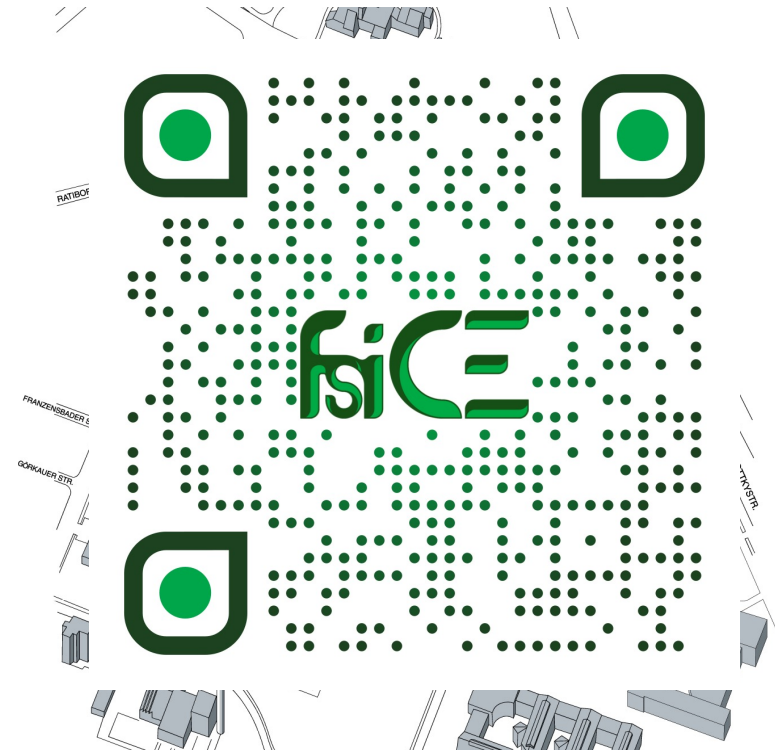


**Via E-Mail:** [fsi-ce@fau.de](mailto:fsi-ce@fau.de)

**Online:** [www.ce.fsi.fau.de](http://www.ce.fsi.fau.de)

**In Our Room:** 02.133-113  
(Computer Science Building)


Just drop by, because we're nearly always there ...



# M.Sc. Computational Engineering

Online Tools

<https://youtu.be/IMEg2XEf3ik>

 *mein campus*

**IdM-Portal**

**UnivIS**

**— STUD ON —**

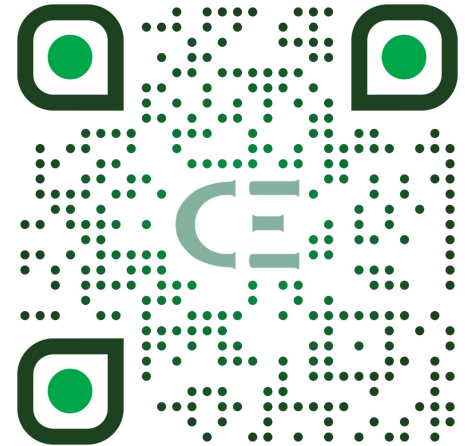
**CE**

## IdM portal: [www.idm.fau.de](http://www.idm.fau.de)

### Manage your personal data!

An IdM login is required for nearly all personalized online services at FAU...

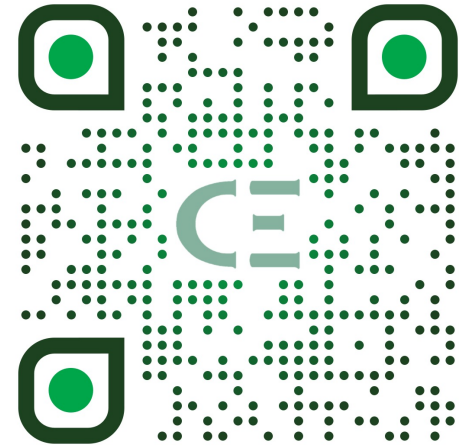
- Activate your **IdM account** with the activation password mailed to you!
- Upload a photo to generate your student ID card – **it will be sent to your semester address!**
- Problems: service counter/“Service-Theke“ RRZE (Computation Center): next to blue computer science tower (Martensstraße 1), 1<sup>st</sup> floor
- **All important information regarding your studies will be sent to your FAU e-mail address!**



# Mein Campus: Manage Your Exams!

Login: <https://www.campus.fau.de>

- “Single Sign-On”
- **Prüfungen** (*Exams*)
  - Exam registration (when active – registration: November 30, 2021 – December 13, 2021; preliminary)
  - Withdrawal from exams: **three working days** before the exam date (Mon–Fri)
  - Overview of registered exams
  - Overview of grades and acquired ECTS credits



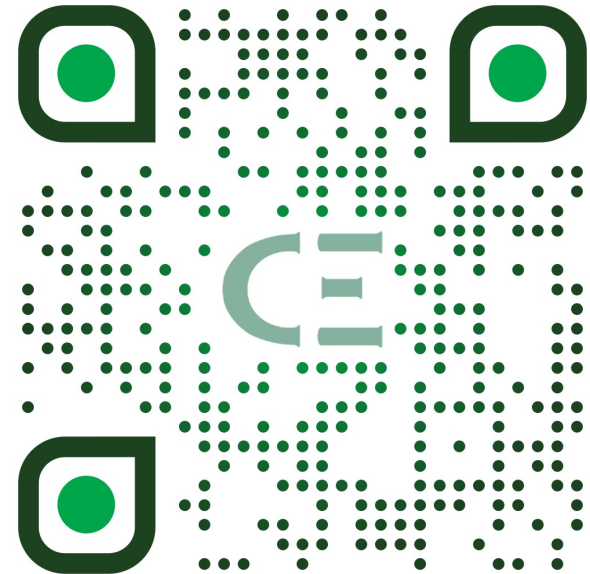
# StudOn: Our E-learning platform

Login: <https://www.studon.fau.de>

- Often used for courses that require registration (seminars, practical courses)
- Platform for sharing course materials

The screenshot shows the StudOn web interface. At the top, there is a navigation bar with 'FAU UnivIS IdM mein campus' and utility icons. Below it is the 'STUDON' logo and menu items: 'Schreibtisch', 'Angebote', and 'Hilfe'. The main content area is titled 'Übersicht' (Overview) and contains three panels:

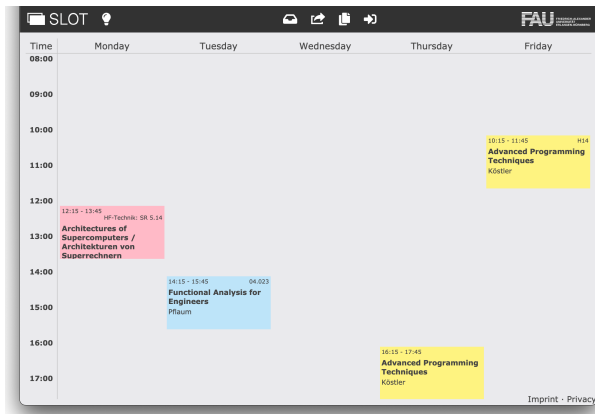
- Kalender:** A calendar view showing dates and course events, such as '31. Okt 2021, 15:10 Numerik 2 für Ingenieure (2017) (Kursend...)' and '31. Dez 2021, 00:00 Advanced Simulation Technology [AdvST] (-)'. A 'iCal' button is visible at the bottom of this panel.
- Ausgewählte Angebote:** A list of selected course offerings under the heading 'Lern- und Arbeitsgruppen'. It includes 'TechFak Hörsaalkino', 'SS 2020' with 'Advanced Simulation Technology [AdvST]', and 'Strömungsmechanik (LSTM)' with 'Numerical Methods in Thermo-Fluid Dynamics I'. Each entry has a dropdown arrow.
- Mail:** A notification panel showing '(1-5 von 20) weiter'.



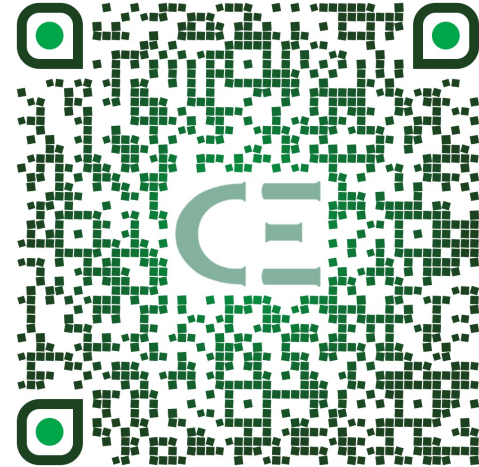
# UnivIS and SLOT: Create your timetable

Create your timetable either with UnivIS  
(<https://univis.fau.de>) or with SLOT (<https://slot.cs.fau.de>).

We prepared an exemplary timetable for you,  
available under <https://slot.cs.fau.de/26673/>



- On our slack channel, you can easily network with other students and your student representatives.
- Just join our Slack Channel and then the room **#msc21**.
- We will also post information of the Student Association there.





## CIP: The Community Computer Pool

Registration: <https://account.cip.cs.fau.de/>

- Reference system for most of the assignments
- Possible workingspace, seat reservation mandatory via <https://www.reserve.cs.tf.fau.de/>
- Access to our material collection/Registration via FSI CE

Login: <https://remote.cip.cs.fau.de/>



# M.Sc. Computational Engineering

What's next?



## What's next?

### 1. Compile your class schedule

→ UnivIS

Introduction: [https://www.medical-engineering.study.fau.eu/files/2018/09/univis-stundenplan\\_engl\\_2-converted.pdf](https://www.medical-engineering.study.fau.eu/files/2018/09/univis-stundenplan_engl_2-converted.pdf)  
<https://slot.cs.fau.de/>

### 2. Register for courses – only if needed (information in UnivIS):

usually via StudOn (see registration link on the respective lecture page in UnivIS)  
If registration is not required, simply go the first meeting.

### 3. Register for exams → MeinCampus

## What's next?

### 4. Re-register for SS 2022

→ bank transfer – details via **e-mail (t.b.a.)**

4. **Study & pass exams** → study groups, time management, practice with old exams from

### 4. **Actively** report on your conditional subjects

→ Examinations Office (Mrs. Barthelmann)

4. Get your semester ticket: <https://shop.vgn.de/index.php/product/518/show>

# M.Sc. Computational Engineering

Q&A

It's time for your questions!!!

