



Fachschaft

Mathematics and Computer Science

at Karlsruhe Institute of Technology

Study Programme Information Computational and Data Science Master

winter semester 2026/27

General information about your studies

- you take **modules** to complete your studies
- pass the module by **examination**
 - there are written and oral exams
 - also: practical courses, seminars, thesis
- every module has a fixed amount of **credit points** (ECTS):
 - you need **120 credit points** for your masters degree
 - planned to be completed within 4 semesters (30 ECTS/semester)
- grades: **1.0**, **1.3**, **1.7**, **2.0**, ..., **4.0** (passed), **5.0** (failed)



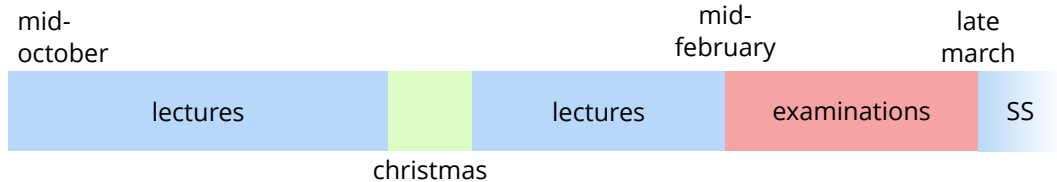
How to choose your modules

- for structure of your studies: refer to the **module handbook** (Modulhandbuch)
 - All possible modules are listed there
 - You can see which modules are mandatory and which optional modules are possible in which part of your studies
 - <https://www.math.kit.edu/english/studium/modulhandbuecher.php>
- Not all modules are offered every semester (the contrary is the case)
- for the availability of modules in the upcoming semester: check the **course catalogue** (Vorlesungsverzeichnis)
 - <https://campus.studium.kit.edu/english/events/catalog.php#!campus/all/fields.asp?group=Vorlesungsverzeichnis>



Structure of a Semester

- 3½ months of lectures
- 1½ months “lecture-free period”
 - examinations take place here, usually one exam date per module per semester
- around christmas: two weeks winter break
- The week before lectures start in summer semester: en-bloc hackathon



The masters programme



Structure of your studies

	Mathematics for CDS (16–32 ECTS)	Computer Science (16–32 ECTS)	Sciences, Engineering, Economics (SEE) (16–32 ECTS)	Specialization (16–32 ECTS)	Hackathon/ Research Data Management/HPC & SQ (10 ECTS)
1	Master-level Mathematics modules 80 ECTS	Advanced Master-level Computer Science modules	Business and Economics, Computational Chemistry, Computational Mechanics, Robotics, ...	Specialization in Mathematics, Computer Science or the chosen SEE profile	Distributed Computing (4 ECTS)
2					Hackathon (2 ECTS)
3					Interdisciplinary Qualifications (6 ECTS)
4	Master's Thesis (30 ECTS)				

Mathematics for CDS

- **16–32 ECTS**
- mostly modules of the Master's program in Mathematics
- choose appropriately from the corresponding module handbook section
- no seminars allowed here



Computer Science

- **16–32 ECTS**
- modules from the Master's program in Computer Science
- choose appropriately from the corresponding module handbook section



Sciences, Engineering and Economics (SEE)

- **16–32 ECTS**
- one of the following profiles (continuing your knowledge from your bachelor program)
 - Business and Economics
 - Computational Chemistry (in German)
 - Computational Earth System Sciences
 - Computational Mechanics and Thermodynamics
 - Computational Physics
 - Electrical Engineering and Information Technology
 - Process Engineering
 - Robotics and Autonomous Systems
- check module handbook for structure and details
- some SEE profiles require the choice of foci



Specialization

- **16–32 ECTS**
- choose between specialization in
 - Mathematics
 - Computer Science
 - your chosen SEE profile (and chosen foci)
- choose modules from the respective module handbook section
- contains a Research Oriented Study Project
 - usually a seminar and/or a lab course
 - not needed in Specialization of Computational Mechanics and Thermodynamics



Further Requirements

- in total **80 ECTS**
 - check for yourself, the campus system does not do that
 - can be exceeded with at most one module
- there can be an overlap between a subject and its specialization
 - each module can be taken only once
 - be careful in which subject you put your modules
 - after registration for an exam, the assignment can only be changed by the examination board



Hackathon, High Performance Computing and Research Data Management

- 6 ECTS
- Distributed Computing (4 ECTS)
- Hackathon (2 ECTS)
 - group project in Computational and Data Science
 - takes place at the beginning of each semester (before the lectures start)
 - registration at the beginning of the previous semester



Interdisciplinary Qualifications

Events on social topics, supplementary programmes that teach the application of specialist knowledge in everyday working life, skills training for soft skills and foreign languages.

- **2-6 ECTS** in total
- there are graded and non-graded modules, only the credit points are relevant for the degree.
- diverse selection, e.g.
 - language courses ([language centre](#), not your native language)
 - seminars on self-organisation, presentation ([HoC](#))
 - seminars on culture, politics and economy ([FORUM](#))
 - tutor training: can be taken if employed by a chair



Master's thesis

- **30 ECTS**
- usually in your chosen specialization
- can be started as soon as **70 ECTS** have been completed in the masters programme
- written over a period of **6 months**
 - subject can be returned within the first month



Additional modules (“Zusatzleistungen”)

- voluntary additional courses
 - included in your transcript of records
 - do not influence your overall grade
- at most 30 ECTS
- modules can be selected freely, even from unrelated subjects
- have to be marked as “additional module” before the examination



Campus System

- management of the administrative processes for your studies
 - select modules
 - register and de-register for exams
 - obtain transcripts and certificates
 - re-enrolment
- **self-management**

Online at <https://campus.studium.kit.edu/english/index.php>



Study Plan – recommendation

- add events to favourites in the Campus System
- then: subscribe to iCal-calendar in Google, Apple, or similar
 - changes sometimes need up to 24h to propagate
- fill in gaps in your own calendar
- **Read your KIT E-Mails!**



Certificates

- Certificate of enrolment
 - sometimes needed by your health insurance

Re-Enrolment

- you have to actively re-enroll every semester
 - inform KIT that you wish to continue your studies
 - click the feedback button and transfer the money
 - you'll receive a reminder via email



Written exams

- dates announced at the beginning of the semester
- registration and de-registration in the Campus System
 - de-registration in the Campus System until midnight before the exam
 - you can still de-register until just before the start of the exam on-site
- two attempts and an oral re-examination
- the second attempt is not mandatory



Oral exams

- you agree on a date with the examiner or their secretariat
- **also** register in the Campus System
 - de-registration is possible until 3 **working** days before the exam by E-Mail to you examiner.
 - later cancellation must be approved by the examination board (e.g. due to illness with a medical certificate)
- two attempts



Exams: Signing up, Writing and Inspection

- you have to sign up in advance in the campus system
 - preferably as soon as possible
 - for oral examinations: make an appointment with your examiner or their secretary
- the exam is failed, if you do not show up after signing up
- grades are published in the campus system
- **visit the examination inspection!**
 - sometimes whole tasks are skipped by accident

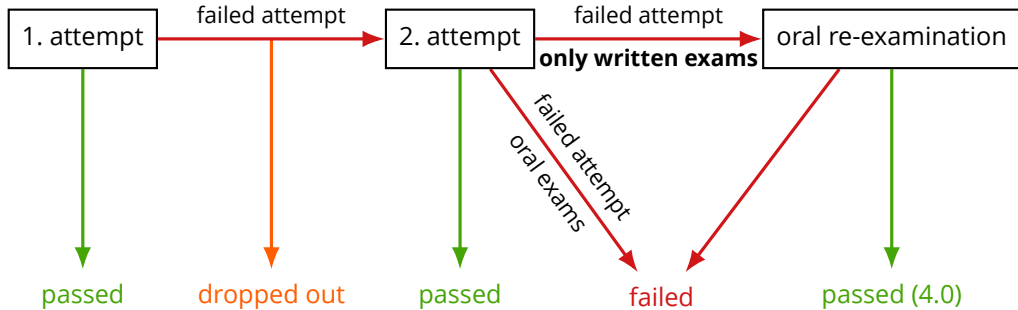


Failed examination: After the Inspection

- you have a **second** attempt (usually in the following semester)
- for **written exams** there is an “oral re-examination” after the second failed attempt
 - timely after the exam
 - the only possible grades are 4.0 (passed) or 5.0 (failed)
- otherwise: “loss of the entitlement for examination”
 - you’ll be exmatriculated
 - you can’t study similar study programs any more, event **at other universities!**
- however, there is the possibility of a **hardship case**
 - more on this later



Overview of examination attempts





**problems
during
studies**

The “hardship case”

- formally “Antrag auf Zweitwiederholung”
- if granted, provides a third attempt to examination
 - every grade is possible
 - for written exams you also get another oral re-examination
- needs to be justified
 - decision is made in the “examination board”
 - **contact the Fachschaft in advance!**



Maximum duration of your studies

- at most 8 semesters
- extension is possible by application to the examination board
 - must be handed in before the end of the 8. semester.
 - similar to the “hardship case”, handled by the same committee.
 - again: **contact the Fachschaft in advance!**

Planned duration of study

- 4 semesters. this is **not** the average duration of study
- mostly only relevant for scholarships and BAföG





Contact Persons

Study counselling

- study counselling
- applications to the examination board
- questions regarding the module handbook and examination regulations
- discussion of lesson planning for the supplementary subject

Computational and Data Science Prof. Dr. Willy Dörfler

<https://www.math.kit.edu/english/studium/fachstudberatung.php>



Students' Centre of Mathematics

- "Studierendenzentrum Mathematik" (StuZeMa)
- mathematics building (20.30) room 0.003 (next to the Fachschaft)
- registration / admission / administrations of records (mostly online)
- contact person: Francesco Amoroso

<https://www.math.kit.edu/english/studium/stuzema.php>



Student Advisory Services (ZSB)

- Responsible for all students at KIT
- Counselling when you lost your entitlement to examination.
 - Alternative courses of study/alternatives to studying
 - Is Computational and Data Science the right degree programme for me?
 - What alternative degree programmes are available?
 - Technical college?



The “Fachschaft”

- office hours
- Mail to mathe@fsmi.org
- Sale of old exams and protocols: <https://exams.fsmi.org>

“Fachschaft Mathematik”

ground floor of the mathematics building (room 0.002)

“Fachschaft Informatik”

basement of the Computer Science building (room -124, near ATIS)



Psychological Help

- Nightline Karlsruhe (maybe only in German)
 - listening service from students for students
 - anonymous, free of charge, Wednesday and Sunday evening
- Psychological Help (PBS) of the Studierendenwerk Karlsruhe
 - they do also the cafeterias and the student dormitories
 - 1500 students annually
 - professional help
 - free of charge (paid with parts of your semester fee)
- <https://www.ifss.kit.edu/student-health-lab/english/147.php>



Social Assistance

- Offers from the AStA
 - social counselling
 - emergency financial aid
 - awards money to students in financial emergencies
 - free tables
 - free cafeteria food for students in financially difficult situations
 - emergency accomodation
 - <https://www.asta-kit.de/en/asta/referate/soziales-0>
- Beratungswerk (counselling centre) of the Studierendenwerk
 - in the dining hall at Adenauerring
 - <https://www.sw-ka.de/en/beratung/beratungswerk/beratungswerk/>





Questions?

Join the active Fachschaft

- representation of students interests (e.g. in university committees)
- we organize parties and also this “O-Phase”
- counselling, old exam and protocol sale, student representation, software projects

Your path into the Fachschaft

- office hour (“Sprechstunde”)
- “Semesterauftakttreffen” (SAT, semester kick-off meeting) on Tuesday, 03.11.2026 at 7 PM at the computer science building
- “Fachschaftsrat” (FSR) on Wednesday, 11.11.2026 at 5:30 PM



Events for Internationals

Internationals Q&A on Wednesday, 21.10.2026 at 1:30 PM

InformatiKOM, seminar room 2&3

Internationals Karaoke on Tuesday, 27.10.2026 at 7 PM

AKK



Good luck with your studies!