



Fachschaft

Mathematics and Computer Science

at Karlsruhe Institute of Technology

Study Programme Information Mathematics Master

summer semester 2026

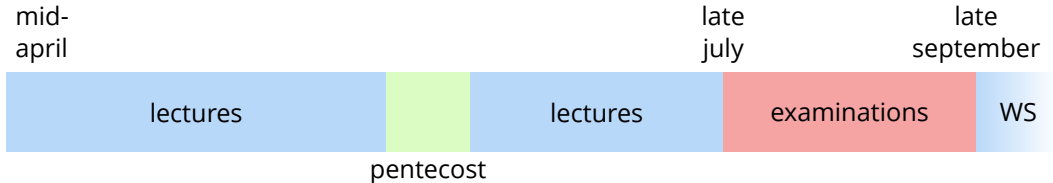
General information about your studies

- 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)



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 pentecost: one week lecture break





**The
masters
programme**

Master of Mathematics



Mathematics – Structure of your studies

	Main Subject 1 (24 ECTS)	Main Subject 2 (16 ECTS)	additional maths courses (14–22 ECTS)	Supplementary Subject (16–24 ECTS)	Seminars & SQ (12 ECTS)
1					
2	analysis algebra / geometry numerical analysis stochastics / statistics		Additional mathematical modules from any of the four subjects	Another mathematical subject or Computer Science, Physics, Economics, Mechanical Engineering, Electrical Engineering	Two seminars (6 ECTS)
3					Interdisciplinary Qualifications (6 ECTS)
4	Master's Thesis (30 ECTS)				

Mathematics – Main Subjects

- 24 ECTS (first subject) and 16 ECTS (second subject)
- Chosen from the four mathematical areas:
 - analysis
 - algebra / geometry
 - numerical analysis / scientific computing
 - stochastics / statistics
- one of the two main subjects must be either analysis or algebra / geometry
- you have to choose two distinct main subjects
- no seminars allowed here



Mathematics – Supplementary Subject

- 16–24 ECTS
- **Either** another mathematical area
- **or** one of the following subjects
 - Computer Science
 - Physics
 - Economics
 - Mechanical Engineering
 - Electrical Engineering
- Other supplementary subjects or modules not listed in the module handbook can be approved by the examination board.



Mathematics – Additional Maths Courses

- “Mathematische Vertiefung” 14–22 ECTS
- choose freely from all four mathematical areas
- at most one ungraded seminar

- together with the supplemental subject: 38 ECTS in total



Master of Mathematics in Technology



Mathematics in Technology – Structure of your studies

	Main subject (24 ECTS)	Technical subject (18–27 ECTS)	Computer Science (8–17 ECTS)	Elective courses (19 ECTS)	Internship & SQ (12 ECTS)
1	Finite Element Methods, analysis, applied mathematics	chemical engineering, electrical engineering, experimental physics, ...	various Computer Science lectures	ungraded seminar (3 ECTS)	internship (10 ECTS)
2				applied mathematics (16 ECTS)	interdisciplinary qualifications (2 ECTS)
3					
4	Master's Thesis (30 ECTS)				

Mathematics in Technology – Main Subject

- **applied mathematics**
 - Finite Element Methods (8 ECTS)
 - analysis (8 ECTS)
 - includes modules from all mathematical areas

Elective courses

- one ungraded mathematical **seminar** (3 ECTS)
- another 16 ECTS of **applied mathematics**



Mathematics in Technology – Technical subject

- Chosen at the beginning of your studies
- Choose from:
 - Constructional Engineering
 - Chemistry
 - [Chemical and Process Engineering](#)
 - [Electrical Engineering](#)
 - [Experimental Physics](#)
 - Mechanical Engineering
 - Mechatronics and Information Technology
 - Material Sciences
- Other technical subjects or modules not listed in the module handbook can be approved by the examination board.



Mathematics in Technology – Technical subject

Moreover:

- **technomathematical seminar**
 - can be from Mathematics, Computer Science or the technical subject
- the remaining courses must be from the **masters programme** (or the **advanced bachelors programme**) of the faculty in charge for the technical subject.
- **The selected modules must be approved by the study counsellor from the respective faculty individually.**
 - It's best to get all desired modules approved at the beginning of your studies.



Mathematics in Technology – Internship

- 10 ECTS, not graded
- at least 8 weeks
- requires supervisor from the company as well as examiner from the faculty
- you have to write a report (approx. 10–20 pages).
- under own responsibility with suitable private or public facility
 - short presentation (approx. 15 min)

Computer Science

- 8–17 ECTS, combined with the technical subject: at least 35 ECTS



Master of Mathematics in Economics



Mathematics in Economics – Structure of your studies

	Mathematics (36 ECTS)	Economics (36 ECTS)	Elective courses (12 ECTS)	Seminars (6 ECTS)
1	stochastics	finance – risk		mathematical
2	numerical analysis / scientific computing, analysis	management – managerial economics (18 ECTS)	Additional modules in Mathematics or Economics	seminar (3 ECTS)
3	algebra / geometry	operations management – data analysis – computer science (18 ECTS)		economical seminar (3 ECTS)
4	Master's Thesis (30 ECTS)			

Mathematics in Economics – Mathematics

- modules from all four mathematical areas:
 - analysis
 - numerical analysis / scientific computing
 - stochastics / statistics
 - algebra / geometry
- at least **8 ECTS of stochastics**
- at least **8 ECTS of analysis** or **numerical analysis / scientific computing**



Mathematics in Economics – Economics

- Two areas:
 - finance – risk management – managerial economics
 - operations management – data analysis – computer science
- selected modules must be approved by your [study counsellor](#)
- see the module handbook for details



Mathematics in Economics – Elective courses

- 12 ECTS
- can be chosen freely from all mathematical or economical areas
- at most one additional economical seminar
 - useful for specialization in the topic of your thesis



About seminars

- **Mathematics**: 2 mathematical seminars
- **Mathematics in Technology**: 1 mathematical seminar, 1 technomathematical seminar
- **Mathematics in Economics**: 1 mathematical seminar, 1 economical seminar

- mostly ungraded, but with compulsory attendance
- sign-up often **towards the end of the previous lecture period**
- notices on the bulletin boards in the mathematics building, as well as in the course catalog



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
- 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
- **Mathematics in Economics**: thesis can also be written at the Economics faculty



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
- [KVV-Warrant](#)
 - free local transport in the KVV area together with KIT Card
 - valid on weekends, public holidays, and Mondays to Fridays after 6 PM

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

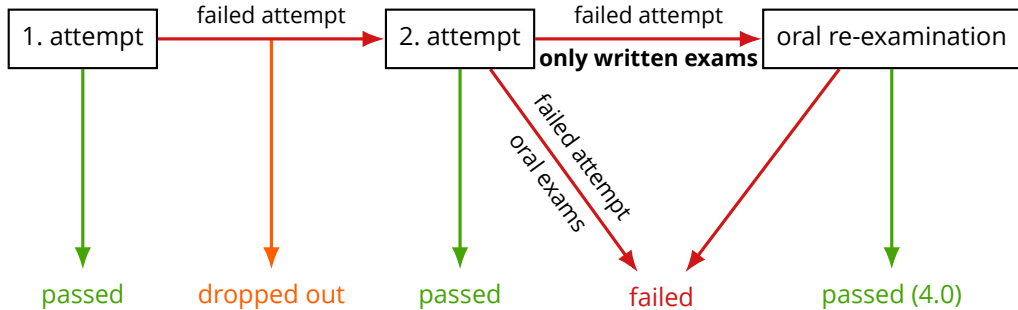


Failed examination: After the Inspection

- 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 (mathematics in technology or economics: 7)
- extension is possible by application to the examination board
 - must be handed in before the end of the 8. (or 7.) 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

Mathematics

Prof. Dr. Tobias Lamm

Mathematics in Technology

Prof. Dr. Willy Dörfler

Mathematics in Economics

Dr. Bernhard Klar

International Master

Prof. Dr. Sebastian Krumscheid

<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 Mathematics 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)





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
- “Semesterauftakttreffen” (SAT, semester kick-off meeting) on Monday, 27.04.2026 at 7 PM at the computer science building



Good luck with your studies!