MASTER O-PHASE
WELCOME AT KIT

Fachschafft MACH/CIW
IMPORTANT INFORMATION

• Remember to bring your certificate of study next Tuesday → then you will get your ribbon

• All important info and changes can be found here on our homepage:
INFO ZUM GRILLEN

• Please bring your own dishes (plates and cutlery) for the barbecue

Thank You!
## ZEITPLAN

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td></td>
<td></td>
<td><strong>Masterconsultation</strong></td>
<td><strong>16:30 Uhr Campustour</strong></td>
</tr>
<tr>
<td>17:00</td>
<td><strong>Welcoming</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td><strong>18:30 Uhr Pub Crawl</strong></td>
<td></td>
<td><strong>Barbecue and Beer</strong></td>
<td></td>
</tr>
<tr>
<td>19:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ADDITIONAL PROGRAM

• Tonight: (indoor beer garden) “Kühler Krug”
• Tomorrow: Bavarian Breakfast
• Friday: Behind the Scenes
WHAT IS THE STUDENT COUNCIL?

Conferences  Consulting  Partys

past Exams

studying
WELCOME TO KIT

Student council MACH/CIW
STUDENT COUNCIL

• Meeting every Wednesday at 7:00pm
• Before every meeting we get pizza
• You can help as much as you want

• Email-Crew-Distributor
  (for bigger events like parties etc.)
Fachschaft MACH/CIW

Consultation hours: Mon., Wed., Fri 12:30 – 14:30
Phone: +49 721 608-4 3782
Mail: fachschaft@fs-fmc.kit.edu
Address: Kaiserstraße 10
Building: 10.23 Room 106 & 107
76131 Karlsruhe
Web: fs-fmc.kit.edu
Instagram: instagram.com/fmc.kit
Master’s program
Mechanical Engineering (KIT)
Winter Term 2023/2024
Technical Data
TECHNICAL DATA

• Regular study time:
  – 4 semester
• Total credit points:
  – 120 ECTS
• Maximum study time:
  – 7 semester
• Proof of internship
  – Latest to the 3rd semester
• Repetition of exams
  – Latest one year later
  – (exception: examination board)
Statutes and Regulations
Studien- und Prüfungsordnung (SPO)
IMPORTANT OFFICES

Prüfungsausschuss (examination board)
- Examination matters
- Legally binding statements
- recognitions
- extensions
- second repetition

InSL (Information and service for students in Mechanical Engineering)
- Recognition of internships
- Official advice center for general study concerns
- Help for international students

Studienbüro (Student office)
- matriculation
- deregistration
<table>
<thead>
<tr>
<th>Advanced Engineering Fundamentals</th>
<th>Specialization</th>
<th>Master thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory Modules</strong></td>
<td><strong>Major Field 1</strong></td>
<td><strong>Master thesis</strong></td>
</tr>
<tr>
<td>Modeling &amp; Simulation</td>
<td><strong>Major Field 2</strong></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td><strong>Fundamentals and methods of the specialization</strong></td>
<td></td>
</tr>
<tr>
<td>Development methods (PD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensioning of Components (PD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compulsory Elective Modules</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematical Methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compulsory elective module</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nat/CS/EE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compulsory elective Module</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics/Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compulsory elective Module</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Competences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ungraded courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choices depending on the Specialization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SOME REMARKS (I)

Compulsory modules Product Development
Currently not taught in English.
English slides and Exam, Lecture Translator

Modeling & Simulation
Slides, Lecture videos, Tutorial available in English

Mathematical Methods
Two English choices:
Mathematical Models and Methods for Production systems
Mathematical Methods of Fluid Dynamics
## Mathematical Methods

<table>
<thead>
<tr>
<th>Bricks</th>
<th>Title</th>
<th>Ver</th>
<th>Wgt</th>
<th>CP</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematical Methods</td>
<td>2</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods in Dynamics</td>
<td>2</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods of Vibration Theory</td>
<td>2</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods in Fluid Mechanics</td>
<td>1</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Models and Methods for Production Systems</td>
<td>1</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Numerical Mathematics for Students of Computer Science</td>
<td>3</td>
<td>1</td>
<td>6.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Probability Theory and Statistics</td>
<td>2</td>
<td>1</td>
<td>5.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods in Continuum Mechanics</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods in Micromechanics</td>
<td>1</td>
<td>1</td>
<td>5.0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Tutorial Mathematical Methods**

<table>
<thead>
<tr>
<th>Bricks</th>
<th>Title</th>
<th>Ver</th>
<th>Wgt</th>
<th>CP</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tutorial Mathematical Methods in Continuum Mechanics</td>
<td>1</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Tutorial Mathematical Methods in Micromechanics</td>
<td>1</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
</tr>
</tbody>
</table>
SOME REMARKS (II)

CEM Mechanical Engineering:
Nearly every lecture of the ME faculty can be chosen

CEM Economics / Law, Natural Sciences / CS / EE
Current catalog doesn’t contain English lectures
You can basically take every lecture from the WIWI resp. PHYS/CHEM/INFO/ETIT faculties, just discuss it with the responsible professor first (Prof. Furmans / Prof. Maas)

Laboratory course
Two english subjects: Decentraly controlled intralogistics systems and Energy Technology Lab

Specializations
Multiple possibilities
Most German students choose General Mechanical Engineering
$\rightarrow$ no restrictions
# SPECIALIZATIONS

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Count</th>
<th>Wgt</th>
<th>CP</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Mechanical Engineering</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Energy- and Environment Engineering</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Vehicle Technology</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Mechatronics and Microsystems Technology</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Product Development and Engineering Design</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Production Technology</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Theoretical Mechanical Engineering</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Materials and Structures for High Performance Systems</td>
<td>1</td>
<td>40.0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
## MAJOR FIELDS AND FUNDAMENTALS & METHODS IN THE SPECIALIZATIONS

<table>
<thead>
<tr>
<th>Modules</th>
<th>Identifier</th>
<th>Title</th>
<th>Ver</th>
<th>Wgt</th>
<th>CP</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M-MACH-102405</td>
<td>Fundamentals and Methods of General Mechanical Engineering</td>
<td>1</td>
<td>1</td>
<td>8.0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Major Fields</strong></td>
<td><strong>Count</strong></td>
<td><strong>2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M-MACH-102649</td>
<td>Major Field: Advanced Materials Modelling</td>
<td>1</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102598</td>
<td>Major Field: Advanced Mechatronics</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102646</td>
<td>Major Field: Applied Mechanics</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102599</td>
<td>Major Field: Powertrain Systems</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102601</td>
<td>Major Field: Automation Technology</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102641</td>
<td>Major Field: Rail System Technology</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102604</td>
<td>Major Field: Computational Mechanics</td>
<td>1</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>M-MACH-102642</td>
<td>Major Field: Development of Innovative Appliances and Power Tools</td>
<td>2</td>
<td>1</td>
<td>16.0</td>
<td>0</td>
</tr>
</tbody>
</table>
HOW TO FIND LECTURES IN ENGLISH

• Filtering the University Calendar by language
• Ask the professors
• Ask the Fachschaft
Extended search for events

With the extended search for events you can search more precisely for events in the currently selected Winter Semester 2019/2020. Please specify the desired search parameters in the following fields and click on "Search". Please note that no more than 200 events could be shown as the result of the search.

- Course number:
- Title:
- Event type:
- Language: English
- Contact hours:
- Appointment:
- Date: MM/DD/YYYY
- Time: hh:mm  •  hh:mm
- Room: Raum hinzufügen...
- Lecturer: Dozent hinzufügen...
- Degree Program: Studiengang hinzufügen...

## MAJOR FIELDS

<table>
<thead>
<tr>
<th>Bricks</th>
<th>Title</th>
<th>Ver</th>
<th>Wgt</th>
<th>CP</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microactuators and Microsensors (K)</strong></td>
<td>CP</td>
<td>min. 8.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-MACH-101910</td>
<td>Microactuators</td>
<td>2</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-102152</td>
<td>Novel Actuators and Sensors</td>
<td>3</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Microactuators and Microsensors (E)</strong></td>
<td>CP</td>
<td>max. 11.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-MACH-105238</td>
<td>Actuators and Sensors in Nanotechnology</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-100966</td>
<td>BioMEMS - Microsystems Technologies for Life-Sciences and Medicine I</td>
<td>2</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-105321</td>
<td>Introduction to Theory of Materials</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-102166</td>
<td>Fabrication Processes in Microsystem Technology</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-105182</td>
<td>Introduction to Microsystem Technology I</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-105183</td>
<td>Introduction to Microsystem Technology II</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>T-MACH-105334</td>
<td>Mechanics in Microtechnology</td>
<td>1</td>
<td>1</td>
<td>4.0</td>
<td>0</td>
</tr>
</tbody>
</table>
ENGLISH MAJOR FIELDS

• Requirements can be fulfilled with English courses:
  – SP12 (Vehicle Technology)
  – SP23 (Power Plant Technology)
  – SP33 (Microsystem Technology)
  – SP46 (Thermal Turbomachines)
  – SP59 (Entrepreneurship)
  – SP26 (Materials Science and Engineering)

• With some small changes (custom Major Field):
  – SP21 (Nuclear Energy)
  – SP24 (Energy Converting Engines)
  – SP60 (Vibration Theory)
  – SP56 (Advanced Materials Modeling)
HOW TO CHOOSE ELECTIVE SUBJECTS?

• Add all courses that interest you to your personal time table on campus.studium.kit.edu
PERSONAL CALENDAR
PERSONAL CALENDAR
HOW TO CHOOSE ELECTIVE SUBJECTS?

• Add all courses that interest you to your personal time table on campus.studium.kit.edu

• Visit all of them in the first week, then select
  – Join the ILIAS Courses for more information
  – Watch the videos/lectures

• You don’t have to register for most courses, just for the exam
SpZ
(and Studienkolleg)

KEY COMPETENCES

• Courses are added to the „unassigned“
• If key competence:
  • form for assignment →
    google the form
Processes
REGISTERING AND DEREGISTERING EXAMS

Video-Tutorials: https://www.sle.kit.edu/imstudium/videotutorials-campus.php
# REGISTERING AND DEREGERISTERING EXAMS

**Brick: T-MACH-105383 – Product Development - Dimensioning of Components (1962885)**

<table>
<thead>
<tr>
<th>Brick Details</th>
<th>Further information</th>
<th>General View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifier</td>
<td>T-MACH-105383</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Product Development - Dimensioning of Components</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>Version 1</td>
<td></td>
</tr>
<tr>
<td>Degree Program</td>
<td>80-504-H-20165 - Mechanical Engineering Master 2016</td>
<td></td>
</tr>
<tr>
<td>Module</td>
<td>H-MACH-102593 - Product Development - Dimensioning of Components</td>
<td></td>
</tr>
<tr>
<td>Exam type</td>
<td>Written examination</td>
<td></td>
</tr>
<tr>
<td>Assignment type</td>
<td>Compulsory</td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Grade scale</td>
<td>third grades</td>
<td></td>
</tr>
<tr>
<td>Credit points (current)</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Credit points (required)</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>not yet started</td>
<td></td>
</tr>
</tbody>
</table>

### Exams (SS 2019)

<table>
<thead>
<tr>
<th>Exam no.</th>
<th>Title</th>
<th>Examiner</th>
<th>Examtype</th>
<th>Registration state</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-T-MACH-105383</td>
<td>Product Development - Dimensioning of Components</td>
<td>Schulze</td>
<td>written exam</td>
<td>Not registered</td>
</tr>
</tbody>
</table>

**Video-Tutorials:** [https://www.sle.kit.edu/imstudium/videotutorials-campus.php](https://www.sle.kit.edu/imstudium/videotutorials-campus.php)
VOLUNTARY / UNSCHEDULED EXAM


Google: kit mach pa formulare
UNSCHEDULED MAJOR


Google: kit mach pa formulare
REPETITION OF WRITTEN EXAMS

Special cases:
• Ungraded modules
• Oral examination

First try → Second try → Oral re-exam → Request for second repeat

Failed (Exam Review?) → Failed (Exam Review?) → failed

Recommendation: seek help at Fachschaft and/or ZSB

Second repetition only possible if request has been granted by the examination board.
INTERNSHIP

• 18 weeks of internship as engineer mandatory
• Either before the beginning of the Master’s program (submitted with application)
• Or within the first three semesters
• Internship documents have to be submitted to InSL
REGISTERING YOUR INTERNSHIP

Until 3rd semester

Internship certificate (original) → InSL

https://www.mach.kit.edu/insl.php
Google: kit mach insl
WHERE TO FIND AN INTERNSHIP

• Institutes often have industry partners
• Internship offers are published on the websites of Fachschaft and KIT Career Service
• Ask your fellow students
REGISTRATION OF MASTER THESIS

• 74 credits required
• Internship needs to be recognized
• Advisor registers thesis in CAS

• „external“ Master theses
  – Professor of faculty ME needs to be corrector
  – Other people can be advisors/second corrector
SEMESTER OF LEAVE

• You can apply for up to two semesters of leave for important reasons, i.e.
  – Parental leave
  – Medical leave
  – Caring for a relative
  – Founding a startup
  – Exchange semester
• All deadlines are moved by one semester
• You can take exams in a semester of leave
• Semester of leave is granted by the Study Office
WHERE TO FIND HELP?

Student advisory services (ZSB)
Information about changing degrees etc.
Website: https://www.sle.kit.edu/vorstudium/zib.php

Psychological Help (PBS)
Appointments via phone
Tel.: 0721 9334060
pbs@sw-ka.de
Website: https://www.sw-ka.de/en/beratung/psychologisch/psychotherapeutische_beratungstelle_karlsruhe/

ASlA
E.g. consultation on social affairs, Legal advice
Website: https://www.assta-kit.de/
EXAM PREPARATIONS

• Old exams
  – Available from mid December on
• Exam protocols
  – Written by students
  – Overview of available exams on our homepage
• where?
  – Fachschaft
• Remarks: almost all old exams are in German only
FURTHER QUESTIONS?

- Search your question on the internet!
- Check the module handbook
- FAQ on the Fachschaft homepage: https://fs-fmc.kit.edu/faq/mach (Google Translate)
- Visit the Fachschaft or contact us via email: fachschaft@fs-fmc.kit.edu
- Ask ISIM
- Ask the Examination Board or InSL