MASTER MATERIAL SCIENCES AND ENGINEERING

Information for first semester students
**TECHNICAL DATA**

- **Regular period of studies**
  - 4 semester
- **Total credit points:**
  - 120 ECTS
- **Maximum study time:**
  - 7 semester

<table>
<thead>
<tr>
<th>Semester</th>
<th>WS 1</th>
<th>SS 2</th>
<th>WS 3</th>
<th>SS 4</th>
<th>Total</th>
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<tbody>
<tr>
<td>Subject</td>
<td>30 credits</td>
<td>30 credits</td>
<td>28 credits</td>
<td>30 credits</td>
<td>120 credits</td>
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<tr>
<td>Material Science Major Courses</td>
<td>Microstructure-Property Relationships 6 credits, mPr</td>
<td>Applied Materials Modeling 6 credits, mPr</td>
<td>Fundamentals in Materials Thermodynamics and Heterogeneous Equilibria 6 credits, mPr</td>
<td>Salt- and Reaction Kinetics and Kinetics of Phases</td>
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<td>Materials Characterization 6 credits, mPr</td>
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<tr>
<td>Schwerpunkt 1 * (Focal Course 1)</td>
<td>See 3.2 8 credits, 2 mPr</td>
<td>See 3.2 8 credits, 2 mPr</td>
<td>See 3.2 16 credits, 3 mPr</td>
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<tr>
<td>Schwerpunkt 2 * (Focal Course 2)</td>
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<td>See 1.4 4 credits, mGPr</td>
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<td>Interdisziplinäre Ergänzung (Interdisciplinary Supplements)</td>
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<td>See 1.4 8 credits, mGPr</td>
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<td>Oberfachliche Qualifikationen (Interdisciplinary Qualifications)</td>
<td>HoCSPRIZIAK courses 4 credits, SL</td>
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<td></td>
<td>Internship 12 credits</td>
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OUTLINE

1. Statutes and regulations
2. Module Overview
3. Formalities at KIT
4. Further information
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Studien- und Prüfungsordnung (Studies and Examination Regulations)

Modulhandbuch (Module Handbook)
IMPORTANT OFFICES AND PEOPLE

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

Studienbüro (Student office)
- matriculation
- deregistration

Performance coordinator
- Registration for examinations
- recognition
OUTLINE

1. Statutes and regulations
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# Module Overview

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LECTURES

• Lectures
  – Offered either in winter or summer
  – Compulsory courses are offered in every semester, alternating in German and English

• Exams:
  – Offered once every semester

→ Getting an early overview
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**Compulsory Subjects**

10.10.2023
# COMPULSORY SUBJECTS

- **Compulsory courses**: must be done by everyone

<table>
<thead>
<tr>
<th>Deutsch</th>
<th>Englisch</th>
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<tr>
<td><strong>Winter semester:</strong></td>
<td><strong>Winter semester:</strong></td>
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<tr>
<td>- Solid-state Reactions and Kinetics of Phase Transformations, Corrosion</td>
<td>- Microstructure-Property Relationships</td>
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<td>- Fundamentals in Materials Thermodynamics and Heterogeneous Equilibria</td>
<td>- Materials Characterization</td>
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<td><strong>Summer semester:</strong></td>
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<tr>
<td>- Microstructure-Property Relationships</td>
<td>- Solid-state Reactions and Kinetics of Phase Transformations, Corrosion</td>
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<td>- Applied Materials Simulation</td>
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Specialisation
FOCAL COURSES

Focal courses: (4 Choises)

• Structural Materials
• Computational Materials Science
• Materials Processing
• Functional Materials
FOCAL COURSES

Focal Courses:

- 2 Focal Courses to choose
- Min. 16 ECTS – Max. 20 ECTS
- Min. 12 ECTS with Grading
- Min. 8 ECTS with „X“
- Registration via CAMPUS

### SP 4: Funktionswerkstoffe  
Koordinator: Prof. Hoffmann

<table>
<thead>
<tr>
<th>LV-Nr.</th>
<th>Lehrveranstaltung</th>
<th>Dozent</th>
<th>SW/S</th>
<th>LP</th>
<th>Erfolgskontrolle</th>
<th>Sem.</th>
<th>Sprache</th>
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</table>
| 230420+  
230421 | Batterien und Brennstoffzellen | Weber | 3 | 3 | mpF | WS | D |
| 2304231 | Sensorik | Merewitz | 2 | 3 | spF | WS | D |
| 2304240 | Sensoren | Wasing | 2 | 3 | mpF | SS | D |
| 2315737 | Photovoltaik** | Proxas | 4 | 6 | spF | SS | D |
| 2315729+  
2315728 | Optoelektronik | Lammer | 3 | 4 | mpF | SS | D |
| 2315724 | Grundlagen der Pharmatechnologie | König | 2 | 4 | mpF | SS | D |
| 2141865 | Neue Anoden und Sensoren | Kohl / Sommer | 2 | 4 | mpF | WS | D |
| 2141866 | Aktoren und Sensoren in der Nanotechnik | Kohl | 2 | 4 | mpF | WS | D |
| 4021111 | Elektronische Eigenschaften von Festkörpern I | Weber / Weiß | 4 | 8 | mpF | WS | D |
| 4021111 | Elektronische Eigenschaften von Festkörpern II | Ustrov | 2 | 4 | mpF | SS | D |
| 5404 | Spektroskopie mit Elektronen und anderen Röntgenstrahlen | Heike / Weise | 2 | 4 | mpF | SS | D |
| 5439 | Moderne Charakterisierungsverfahren: Eigenschaften von Materialien und Katalysatoren | Granville / Kiesel | 2 | 4 | mpF | WS | D |
| 23660 | X | Siegel | 2 | 4 | mpF | WS | D |
| 2300465+  
2300647 | Halbleiterbauelemente | Koos | 3 | 5 | spF | WS | D |
| 2126784 | Funktionsmaterialien | Hinterstein | 2 | 4 | mpF | WS | D |
| 2181710 | Mechanik von Mikrosystemen | Greiner / Große | 2 | 4 | mpF | WS | D |
| 2312771+  
2312772 | Supraleitung: Material** | Hoitkamp | 4 | 6 | mpF | WS/SS | E |
| 2312708 | Supraleitung für Ingenieure*** | Hoitkamp / Kempf | 3 | 5 | spF | WS/SS | E |
| 2312707+  
2312708 | Supraleitung: Magnet Technologie und Power System*** | Amori / Noa | 6 | 7 | mpF | SS | E |
| 2100013 | Lasergetriebene Methoden und deren Einsatz für Energiespeichermaterialien | Pfeifeng | 2 | 4 | mpF | WW | D |

19.10.2023  
Fachschaft Maschinenbau/Chemieingenieurwesen
## MODULE OVERVIEW

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SCHLÜSSELQUALIFIKATIONEN
KEY COMPETENCES

• House of Competence \((\text{HoC})\)
  • Key Competences

• Zentrum für Angewandte Kulturwissenschaften \((\text{ZAK})\)
  • Key Competences + Studium Generale

• Sprachenzentrum \((\text{SpZ})\)
  • Language courses

→ Registration periods shortly before the start of each semester
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INTERNERSHIP

Internship:

• SPO:
  – At least 9 weeks (in the industry)
  – Must cover certain fields of activity

• Recognition by Dr. Patric Gruber

• Short presentation about the activities during the internship and report (mostly presentation slides)

• Bring original employer’s reference
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Master thesis:

- 30 ECTS
  - 6 months! Extension *(can be applied for at the PA)* only in exceptional cases (broken test-bench, illness, etc.)
- Prerequisite:
  - At least 75 LP completed
  - Completed internship
OUTLINE

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Exam registration:

• Examinations must be **registered**

• Exams must be **deregistered** if they are not examined after all
FORMALITIES AT KIT

Deadlines and time limits:

• Exam deregistration:
  – Written examination: the latest in the examination room
  – Oral examination: 3 working days before examination

• Recognition likely in the first semester (or directly after return/change)

• Do not forget to re-register for the coming semester → Mid-February and Mid-August (You’ll receive an email)
REPETITION OF WRITTEN EXAMS

- First try
- Failed (Exam Review?)
- Second try
- Failed (Exam Review?)
- Oral re-exam
- Failed
- Request for second repeat

Recommendation: seek help at Fachschaft and/or ZSB

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

• PA MatWerk:
  – for all problems and questions concerning admission to examination
  – can make legally binding statements
  – matwerk.mpa@fs-fmc.kit.edu

• Studierendent service/Studiy Office:
  – Enrollement
  – Admission
  – Exmatrikulation
  Welcome Desk!

• Performance Coordinator (Johannes Schneider, IAM-CMS):
  – Registration for examinations
  – Recognitions
SEMESTER ABROAD

Various possibilities
• ERASMUS+
• Direktkooperation
• Freemover
• Kentucky
• …

Important
• Inform immediately and be early
• IStO und ISIM coordinate the abroad stays
SEMINER OF LEAVE

Recognition of abroad studies
• Talk to the lecturer in advance
  – If possible, make a written record of the „Learning Agreement“ (Erasmus)
Fachschaft MACH/CIW
Öffnungszeiten: Mo-Fr 12:30-14:30
Telefon: +49 721 608-4 3782
Mail: fachschaft@fmc.uni-karlsruhe.de
Adresse: Kaiserstraße 10
        Gebäude: 10.23 Raum 106 & 107
        76131 Karlsruhe
Web: fs-fmc.kit.edu
Facebook: facebook.com/fmc-kit
Instagram: FMC.kit
BESIDE STUDIES

Discovering new things by looking beyond the horizon
Abroad studies, university groups, social commitment

- Student co-determination in/at the university
  - Student Council
  - ASTA
- Hochschulgruppen
- HiWi-Job

→ Entry possible at every time
WHAT ELSE TO DO...

Subscribe our Semesterverteiler: https://www.fs-fmc.kit.edu/semesterverteiler
SUMMARY

• Get a general overview
• Early registration for exams
• Recognition likely within the first semester
• Master thesis maximum 6 months
• Plan your stay abroad early