Master of Science
Embedded Systems Engineering

Administrative Tips and Tricks
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Time periods in the University year

Lecture time
summer semester

Exam period
winter semester

Exam period
summer semester

Lecture time
winter semester

Mandatory Courses

Specific courses
- Cyber Physical Systems – Discrete Models (Engl.)
- Sensorik und Aktorik (Ger.) / Sensors (Engl.)
- Aufbau- und Verbindungstechnik (Ger.) / Assembly and Packaging Technology (Engl.)
- Micro electronics (Engl.)
- Modelling and system identification (Engl.) (=Modellbildung und Systemidentifikation)

Plus
- One out of six so-called Key courses (Kursvorlesungen) in Computer Science
- One other Key course or one Specialization course in Computer Science

Structure of the study program
(when starting in winter term)

<table>
<thead>
<tr>
<th>Module / Area</th>
<th>Semester</th>
<th>ECTS credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber Physical Systems – Discrete Models (Engl.)</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Sensorik und Aktorik (German) [alternative: Sensors (English)]</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Aufbau- und Verbindungstechnik (Ger.) / Assembly and Packaging Technology (Engl.)</td>
<td>1 or 2</td>
<td>5</td>
</tr>
<tr>
<td>Micro-electronics (English)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Modelling and system identification (Engl.) (=Modellbildung und Systemidentifikation)</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Kursvorlesung Informatik</td>
<td>1 or 2</td>
<td>6</td>
</tr>
<tr>
<td>Kurs- oder Spezialvorlesung der Informatik</td>
<td>1 or 2</td>
<td>6</td>
</tr>
<tr>
<td>Concentrations area 1</td>
<td>2 and 3</td>
<td>At least 15</td>
</tr>
<tr>
<td>Concentrations area 2</td>
<td>2 and 3</td>
<td>At least 15</td>
</tr>
<tr>
<td>Personal Profile</td>
<td>2 and 3</td>
<td>At least 15</td>
</tr>
<tr>
<td>Master thesis + presentation</td>
<td>4</td>
<td>27 + 3</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

At least 51 overall
Deeper look at the mandatory courses

- You should take:
  - Cyber Physical Systems – Discrete Models (engl.)
  - Sensorik und Aktorik (dt.) / Sensors (engl.)
  - Assembly and Packaging Technology (engl.) / Aufbau- und Verbindungstechnik (dt.)
  - Micro electronics (engl.)
  - Modelling and system identification (engl.) (=Modellbildung und Systemidentifikation)
- Do those in your first or second semester, depending on your preferred language!

Deeper look at the mandatory courses

You have to choose one of the 6 Key courses (Kursvorlesungen) in Computer Science:
- Key courses offered in winter semester:
  - Image Processing and Computer Graphics / Bildverarbeitung und Computergrafik (always in English)
  - Algorithm Theory / Algorithmentheorie (always in English)
  - Databases and Information Systems / Datenbanken und Informationssysteme (always in German)
- Key courses offered in summer semester:
  - Computer Architecture / Rechnerarchitektur (annually switching languages)
  - Software Engineering / Softwaretechnik (annually switching languages)
  - Foundations of Artificial Intelligence / Grundlagen der Künstlichen Intelligenz (annually switching languages)
- If languages are changed each year, you will find up-to-date recordings in English.

Deeper look at the mandatory courses

And you have to take
- Either a second key course
- Or one specialization course from Computer Science

There is a big selection of specialization courses. Some of them can also be found in the respective concentrations areas, and all of them can also be chosen in your personal profile. So please think about the category you want to put the course into, when registering for it in HISinOne.
Concentrations and Personal Profile

- Choose two concentration areas (one from each group) and do courses >= 15 credits
- In your Personal Profile select courses >= 15 credits from all lectures, seminars or lab courses from the Master’s programs for
  - MSE or MST
  - Computer Science
  - at the Faculty of Engineering
- You may take as many courses as you need to fulfill the constraints, but no more (additional)!
- You may take at most 2 seminars overall; the number of lab courses is not limited.

Conditional admission – What does this mean for me?

- Conditions have to be fulfilled in addition to the normal Master’s curriculum → likely to extend the time you need to graduate
- You have to complete the required modules by the end of the second semester. They should be your top priorities!
- You will be automatically registered for these courses, but have to register for the exams yourself
  - Registration for these exams have to be done via PDF form: https://www.tf.uni-freiburg.de/de/studium-lehre/a-bis-z-studium/dokumente/Examregistration.pdf

Conditional admission – What does this mean for me?

- The required modules have to be completed by the end of the second semester.
- It is not sufficient to take the exam, you have to attend the course.
- If the lecturer requires any exercises or mid-term exams for admission to the final exam, you also have to fulfill these requirements.
- Exams required for conditional admission can only be repeated once.
- If a conditional course collides with one of your mandatory or elective courses, the conditional course should always have higher priority!
- Some conditional courses can be switched with their language counterpart (obviously you should know the language well enough, if doing this):
  - MST Bauelemente and MS Technologies and Processes
  - Sensors and Sensorik/Aktorik

Tips for your first week

- Read the official exam regulations! (= terms and conditions of your study program)
- Study the online course catalogue
- Check out a few more courses than you intend to complete
- Most prerequisites stated in the course catalogue are recommendations, they are not mandatory
- Please note: The first exercise/tutorial might take place after the first lecture only; check with lecturer, if unsure
- You can cancel again any courses till the end of the lecture period!
- Information on dates for course registration: https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates → Booking deadlines for Bachelor and Master courses
Problems with your studies?

- If you have any questions or problems: 
  Act immediately and do not procrastinate!
- Contacts & info sources:
  - Official information sources by university, faculty and study program
  - academic advising
  - Lecturers / assistants /mentors (face-to-face or via e-mail)
  - Fachschaft (departmental student committee)
  - Information centers like the Student Service 
    Center, Office of Student Services etc.
  - fellow students

Registering for/ booking of courses

- Have a look at the course catalogue:
  https://campus.uni-freiburg.de
  → Studies offered → Show university course catalog →
  Technische Fakultät → Master of Science (M.Sc.) →
  Embedded Systems Engineering (ESE), PO 2012
- For information on handling the Campus-Management-System see
  https://www.tf.uni-freiburg.de/en/studies-and-
  teaching/teaching/course-booking
  or use the extensive wiki of HI/SinOne → Help → Guide for students
- If you have questions or made a mistake while registering:
  Contact us!
  (me or Ms. Moses in the Dean’s office: moses@tf.uni-freiburg.de)

What to do if you forgot to register/book a course

- If you forgot to register for a course (or decide very late you would like to try it):
  - Go to the lecturer and ask if there are still places available and if it generally makes sense to start late
  - For lectures, you can register yourself till the end of the lecture time, but the lecturer might also add you manually in the HI/SinOne system
  - The examination office can’t help you here!
- Registration for an exam in HI/SinOne is only possible if you are registered for the course!

Registration for exams

- It's a second, independent step from booking the course. It’s not done automatically!
- The procedure is similar to booking the courses. For a how-to, see
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/de-registration-of-exams
- Deadlines for the registration (and de-registration) for exams are also mentioned on this website.
- Without registering for an exam you are not allowed to take it, so do not forget!
- To make sure you are correctly registered, we recommend saving/printing the pdf of the in HI/SinOne → My studies
  → My course enrollments and exam registrations
How to proceed if you failed an exam

- Number of tries are limited:
  - Every exam can be tried 2 times
  - Three exams for courses in the required or elective modules can be tried 3 times
    This rule does not include lab courses or seminars.
- You are registered automatically for the repetition(s) and cannot sign off!
- You cannot substitute a course you already took an exam in with another one!

What to do in case of illness

1. If you are ill on the exam day...
   1. You should not take the exam! (You can’t “take it back” once you did it...)
   2. Print the Medical certificate for Master students
      (https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/forms-examinations-offices)
      [yes, there is a slight typo at the end of the URL...]
   3. Go to a general practitioner on the day of the exam and ask him to fill in the medical certificate
   4. Submit the completed medical certificate within three work days to the examination office
      (If you are too late, it will be counted as a fail!)
- If you are not sure what to do: Ask in time!

Improvement of a grade

- For exams in 2 courses, that you already passed, you may try for an improvement of the grade. It has to be done in the following semester (i.e. repeating the exam).
- To register for an improvement, you have to contact the examination office; it can’t be done in HISinOne.
- This rule also excludes lab courses or seminars.

Information via Internet

- Some useful links:
  - Faculty of Engineering:
    https://www.tf.uni-freiburg.de/en/studies-and-teaching
  - Calendar, dates and deadlines:
    https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates
  - Information about exams etc.:
    https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq
  - Study plans, syllabus, academic rules:
    https://www.tf.uni-freiburg.de/en/studies-and-teaching/module-handbooks