saarland-informatics-campus.de

Saarland Informatics Campus

Welcome for Master Students in Embedded Systems

Prof. Holger Hermanns, 11 October 2024

UNIVERSITÄT
DES
SAARLANDES

SIC Saarland Informatics Campus

Welcome at SIC

Click:

https://saarland-informatics-campus.de/en/

About us

- **5 informatics institutes** and
  3 collaborating departments on campus

- Around **2,100 students** from more than **80 countries**

- **~ 75 research groups**, 500+ doctoral candidates

- **~ 800 scientists** at Saarland Informatics Campus

- 24 informatics study programs, **16 research fields**

- **6 Konrad Zuse** Medals

- **38 ERC** Grants

- **6 Leibniz** Awards

More about us:
https://saarland-informatics-campus.de/en/ueberuns-aboutus/

Outstanding career prospects

Plenty of different work experience opportunities:

- You can work as a research assistant in the computer science department or at one of the five associate institutes or as an intern at one of the many start-ups and IT companies in the region (Dillinger, Saarstahl, ZF, Hydac, SAP and so on)

With a degree from Saarbrucken, you will be an ideal candidate for jobs in leading companies in the high-tech industry:

- Cooperations between our campus and numerous international organizations (more than 100), such as Google, Microsoft, Facebook, Intel, Samsung, IBM, EADS, Microsoft, Bosch, Airbus, Siemens, etc.

If you wish to pursue a career in academia, you can stay on with us:

- The Saarbrücken Graduate School of Computer Science provides an optimal environment for pursuing doctoral studies in computer science at an internationally competitive level

Saarland University provides a broad range of support for budding entrepreneurs:

- Since 2005 more than 100 spin-offs

Your Studies at Saarland University

Study Regulations for Master of Embedded Systems

Read your study documents carefully!

Examination regulations,
subject-specific regulations and study regulations:

Check the website for the joint examination offices
of all Faculites of Natural Sciences and Technology.

https://www.ps-mint.uni-saarland.de/en/programmes/es

You better know your rights and duties as student!

YOUR STUDIES

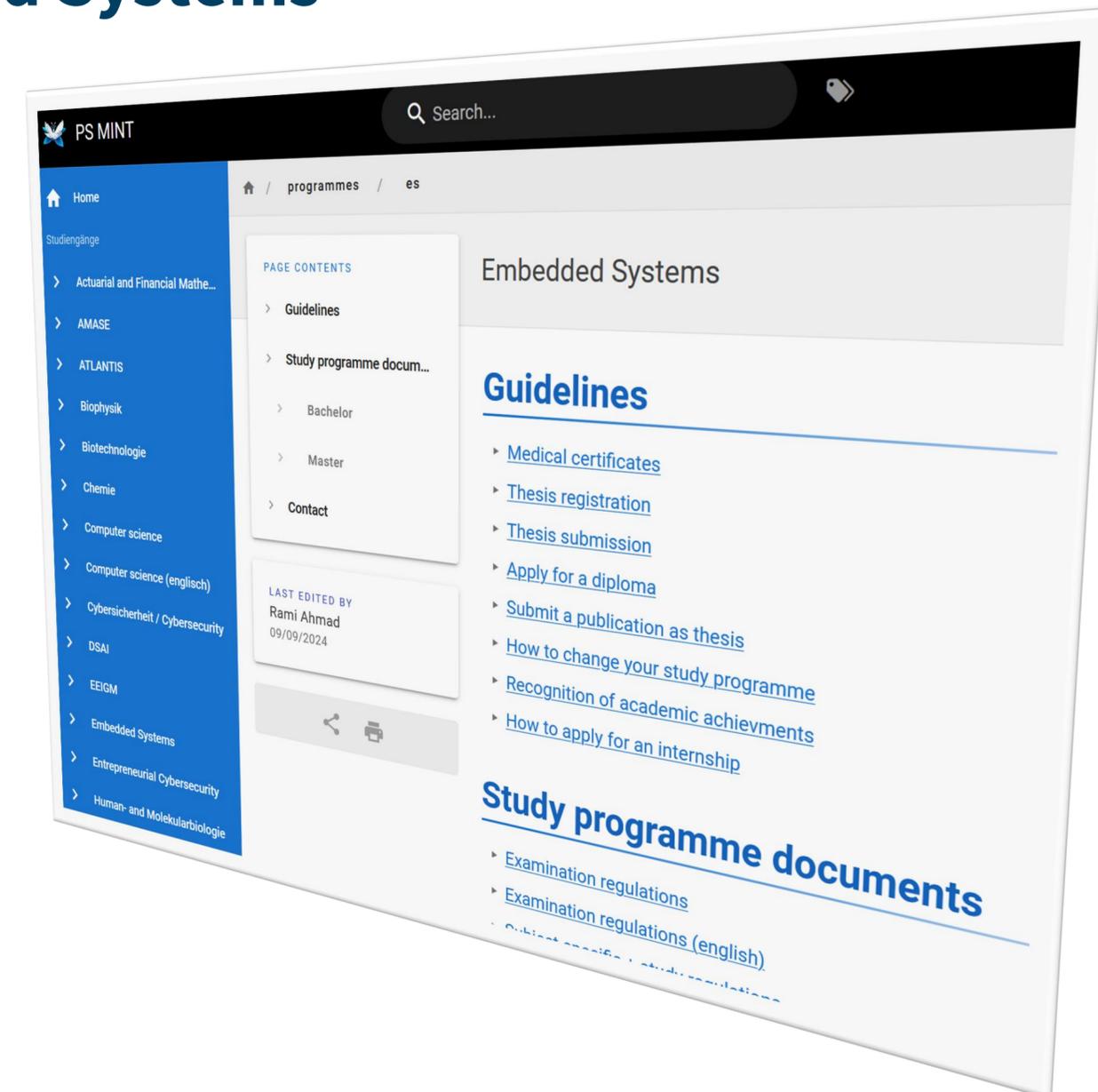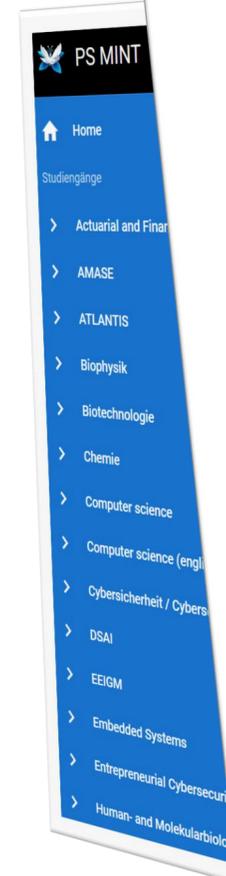# Study Regulations for Master of Embedded Sy

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PS MINT

🏠 Home

Studiengänge

› Actuarial and Finan

› AMASE

› ATLANTIS

› Biophysik

› Biotechnologie

› Chemie

› Computer science

› Computer science (engl

› Cybersicherheit / Cybers

› DSAI

› EEIGM

› Embedded Systems

› Entrepreneurial Cybersecuri

› Human- and Molekularbiolog

Study Regulations Governing the Master's
Degree Programme in Embedded Systems at
Saarland University

2 June 2016

Pursuant to Section 54 of the Saarland University Act of 23 June 2004 (Official Gazette of Saarland, p. 1782) as amended by the Act of 14 October 2014 (Official Gazette, p. 406) and pursuant to the Joint Examination Regulations for the Bachelor's and Master's Degree Programmes of Faculty 6 (Natural Science and Technology Faculty I – Mathematics and Computer Science) of 2 July 2015 (Official Bulletin No. 72, p. 616) as amended by the Ordinance to Amend the Joint Examination Regulations for the Bachelor's and Master's Degree Programmes of Faculty 6 (Natural Science and Technology Faculty I – Mathematics and Computer Science) of 28 April 2016 (Official Bulletin No. 47, p. 404) and with the consent of the Saarland University Senate, Faculty 6 (Natural Science and Technology Faculty I – Mathematics and Computer Science) at Saarland University hereby issues the following Study Regulations for the Master's Degree Programme in Embedded Systems.

**Section 1
Scope**

These study regulations, which govern the content and structure of the Master's degree programme in Embedded Systems, are based on the Joint Examination Regulations for the Bachelor's and Master's Degree Programmes of Faculty 6 (Natural Science and Technology Faculty I – Mathematics and Computer Science) of 2 July 2015 (Official Bulletin No. 72, p. 616) as amended by the Ordinance to Amend the Joint Examination Regulations for the Bachelor's and Master's Degree Programmes of Faculty 6 (Natural Science and Technology Faculty I – Mathematics and Computer Science) of 28 April 2016 (Official Bulletin No. 47, p. 404) and on the Subject-Specific Regulations for the Bachelor's and Master's Degree Programmes in Embedded Systems of 2 June 2016 (Official Bulletin No. 67, p. 642). The Faculty of Mathematics and Computer Science is responsible for organizing the teaching, study curriculum and examinations relating to these programmes.

**Section 2
Objectives of the degree programme and career relevance**

The Master's degree programme in Embedded Systems aims to build on the mathematical and scientific foundations of the subject so that graduates from the programme are able to apply relevant computer science methodologies to develop advanced innovative solutions to technical problems. These solutions are often embedded in a technical system and thus provide added value to the system user. In addition, graduates from the Master's degree programme in Embedded Systems will be able to apply advanced scientific and computer-assisted methods to analyse complex problems including those relevant in a more general engineering context. As a result, graduates will be particularly well qualified for careers in industry, business and the research sector. To meet these objectives, students must acquire a good grounding in both the theoretical and practical aspects of all areas needed in order to be able to understand and develop systems. The core principle behind the Master's programme is to educate and train students in a manner that straddles classical engineering disciplines and general computer science. By covering such areas as the design of analogue circuit components, antenna design, control engineering, measurement and instrumentation technology, sensors and actuators, communications engineering, voice recognition, multimodal user interfaces and design verification, the curriculum enables students to acquire a thorough understanding of the field and the skills needed to develop modern embedded and networked systems. A further important aim of the programme is to strengthen key

Excerpt of the Regulations – What points to score in what categories?

1. **27 - 31 graded** credits in the category of **core lectures** in embedded systems

2. **27 - 31 graded** credits in the categories of **core lectures, advanced lectures, or seminar**
   in embedded systems (here: at most 1 seminar!)

3. **7 graded** credits in the category of **seminars** in embedded systems

4. At least **17 ungraded credits** must be acquired by:

   - Further core, advanced courses or seminars in embedded systems

   - Internship in a company (max. 6 CP); approved by the examination board

   - Leading a tutorial (tutor)

   - Language courses (max. 6 CP, living language)

   - Courses from other departments, which have been applied for and approved by
     the examination board (e.g. in mathematics or business informatics)

5. **12 graded** credits for the **Master's seminar** and **30 CP** for the **Master's thesis**

Course catalogue (LSF)

How to choose a lecture – example: core lecture

Faculty Mathematics and Computer Science ⟶ Courses on Embedded Systems ⟶ Master

https://www.lsf.uni-saarland.de/qisserver/rds?state=wtree&search=1&trex=step&root120212=300726|294085|299760|303367|298983&P.vx=kurz

Bachelor ES:
Basic Lectures and **Introductory Seminars** can **only** be taken by **bachelor students**

Course list (Core lectures)

How to choose a lecture – example: Verification

Course Overview — current semester

- Vorlesungsverzeichnis
  - Mathematics and Computer Science
    - Computer Science
      - Courses on Embedded Systems
        - Master
          - Core Lectures

Lect.-No.	Lecture
131672	Theoretische Elektrotechnik II - Dyczij-Edlinger
131674	Computational Electromagnetics 1 - Dyczij-Edlinger
131752	High Frequency Engineering (Hochfrequenztechnik) - Möller
131820	Elektrische Antriebe (Antriebstechnik 1) - Nienhaus
131827	Systemtheorie und Regelungstechnik 2 - Rudolph
131860	Mikrosystemtechnik - Schütze
131931	Aufbau- und Verbindungstechnik I - Wiese
131933	Elektronik - Teilmodul Bauelemente - Wiese
131934	Mikroelektronik III - Xu
133206	Multimedia Transport (Future Media Internet) - Herfet
133613	Digital Transmission, Signal Processing - Herfet
133616	Security - Krombholz , Tippenhauer
133617	Software Engineering - Apel
133619	Verification - Finkbeiner
133627	Operating Systems - Kaufmann, PhD
133630	Neural Networks: Theory and Implementation - Klakow

Example !

Verification - Single View
Go Back

Functions: Schedule preselected

Page contents: Basic Information | Dates/Times/Location | Responsible Instructor | Curriculae | Departments | Structure Tree

Basic Information

Type of Course	Lecture / Exercise/problem-solving class	Long text	
Number	133619	Short text	
Term	WiSe 2021/22	Hours per week in term	
Expected no. of participants		Max. participants	
Turnus		Assignment	no enrollment
Credits			
Additional Links	https://www.react.uni-saarland.de/teaching/		

Example !

Please follow the instructions given on the webpage and/or join the first lecture

Dates/Times/Location Group:

	Day	Time	Turnus	Duration	Room	Room-plan	Lecturer	Status	Remarks
▶	Tue.	14:00 to 16:00	woch						Ort nach Vereinbarung (siehe Website der Veranstaltung)
▶	Thu.	10:00 to 12:00	woch						Ort nach Vereinbarung (siehe Website der Veranstaltung)

Example instantiation of master's programme Embedded Systems

Semester	Courses			
1	Core course	Core course	Advanced course	Language course
2	Core course	Core course or Advanced course	Seminar	Advanced course
3	Masterseminar 12 CP	Seminar	Advanced course	Advanced course
4	Thesis 30 CP			

Control of progress

Full-time students are expected to deliver the following minimum requirements in the Master course of study:
• At least 9 credits after 1 semester
• At least 30 credits after 2 semesters
• At least 60 credits after 4 semesters
• At least 90 credits after 6 semesters

In case a student does not meet the minimum requirements for the second time,
he/she shall **lose the right to participate in examinations**.

Students shall be given the opportunity to make a written statement
before the examination board makes the final decision in the matter.

Examination registration

Please notice:
For **all examinations** you have to register in LSF **one week before** the exam at the latest (final exam <u>and/or</u> re-exam)!
A delayed registration is not possible!
A withdrawal is possible **one week** before the respective exam at the latest; later only with a medical certificate!

Only for core lectures: You can improve a grade in a core course if you have passed the final exam
by taking part in the re-exam **in the same exam period**. The better grade counts.

For some <u>courses,</u> e.g., seminars you have <u>also</u> to register before the course starts (limited number of participants):
Please have a look at the respective website because of the conditions for registration.

Seminar registration: https://seminars.cs.uni-saarland.de/
A withdrawal from a seminar registration is only possible within three weeks after getting assigned the topic for presentation.

Problems? Please contact the study coordination!

Contacts (1/2)

Computer Science Students' Representative Council
Students of different study programmes
E1.3, Raum 107
https://cs.fs.uni-saarland.de/en/

Study Coordinators:
    Dr. Rahel Stoike-Sy
    Barbara Schulz-Brünken
Assistance in your study organisation and progress:
- questions about the examination and study regulations
- academic or personal problems
- information about exchange semesters, etc.

Building E1.3, rooms 209 and 207

Emails to: studium@cs.uni-saarland.de

Contacts (2/2)

Examination Office:

Administration and processing of your programme achievements:

- Transcript of record
- registration master thesis
- official certificates
- recognition of external academic achievements, etc.

Building E1.3, room 202

Office hours: information on website:

Emails to: contact person according to degree programme

https://www.ps-mint.uni-saarland.de/index.php?id=38&L=3

SIC System Administration: https://it.cs.uni-saarland.de/

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Follow us on Twitter
@SIC_Saar

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UNIVERSITÄT DES SAARLANDES

CBI CENTER FOR BIOINFORMATICS

M^2CI CLUSTER OF EXCELLENCE

DFKI German Research Center for Artificial Intelligence

mpii max planck institut informatik

MAX PLANCK INSTITUTE FOR SOFTWARE SYSTEMS

Enjoy your studies!
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