



LUND
UNIVERSITY

MSc in Embedded Electronics Engineering

LUND UNIVERSITY, SWEDEN

- Master of Science in Electronic Design
- 2 years, full time, 120 ECTS credits
- Faculty of Engineering
- Lund campus
- Application deadline: January 2018
- Programme start: August 2018

Programme overview

Embedded Electronics Engineering offers a wide perspective, where digital and analogue design is regarded as one unit in which different domains interact. The focus is on CMOS, where billions of devices are used to build a system on a single silicon die.

The programme is demanding and unique in its offering, a perfect preparation for your future career. It spans areas from radio frequency (RF) circuits through to data conversion and digital circuits. Another distinguishing programme feature is that circuit design is linked to the area of wireless communication, where RF front-ends are co-designed with digital baseband, which provides the opportunity to build complete transceivers.

Due to the extensive local industry, the programme is closely linked with a variety of private companies, which ensures that our courses maintain high market relevance. In some cases our students' degree projects result in patent registrations and the opportunity to publish their work at international conferences.

Special features of the programme:

- The focus is on applied studies in digital IC design, analogue /RF IC design and mixed signal/data conversion IC design.
- All taught study involves hands-on laboratory work using the most modern CAD tools and IC technologies.
- The programme is taught by world leading researchers and there are very strong links to research in the field.
- After the initial taught courses, students undertake a large

project, where the student starts from a digital or analogue design specification and carries it through to completion, and, in some cases, silicon realisation.

Programme modules/courses

COURSES AND NUMBER OF CREDITS: Embedded Systems (7.5), Introduction to Structured VLSI Design (7.5), Analogue IC Design (7.5), Digital IC Design (7.5), Integrated A/D and D/A Converters (7.5), Patent and Intellectual Property Rights (IPR) (7.5), IC Project & Verification I (7.5), IC Project & Verification II (7.5) Master's degree project (30), electives at the Faculty of Engineering (in total 30).

Career prospects

After completing this programme you will be ready for a career, or further research studies, in circuits and systems with a focus on VLSI design. Designers in this area are very attractive on the global job market. The Lund area itself is a part of one of the fastest growing regions in Europe, with a large concentration of interesting companies in the field, large and small, such as Sony, Ericsson, Axis, ARM Sweden, Mellanox, Oticon and GN Resound. The European Spallation Source (ESS) and MAX IV, both located in Lund, will also offer students many exciting career opportunities. For some students, perhaps the most interesting career option is to continue towards a PhD.

The final semester degree project offers students the opportunity to work alongside our current PhD students to get a taste for what a career in research is like. This route is very popular with our Master's students, and a large number of graduates have chosen to continue their studies, both in Lund and at other research institutions around the world.

Entry requirements and how to apply

ENTRY REQUIREMENTS

A Bachelor's degree in electrical engineering, computer science or equivalent including courses in mathematics



“The programme is industry oriented and prepares you for the job market. Every course has laboratory sessions, so that you have the opportunity to apply theoretical knowledge. We have professors who guide you if you want to apply for internships or thesis work at a company. I did a summer internship (and later my thesis work) at Ericsson, where I got the chance to work in a field that particularly interests me. While I was working on the thesis, they had a job opening. I applied and finally landed the job. I will start working at Ericsson right after I graduate.”

Deepak Yadav, from India





of at least 20 ECTS credits. The applicant must have basic knowledge of digital and analogue circuits, corresponding to no less than 6 months of study (30 ECTS). For details on English proficiency levels, see www.lunduniversity.lu.se.

HOW TO APPLY

- 1. Apply online:** Go to www.lunduniversity.lu.se/embeddedee. Click on "Apply" and follow the instructions for the online application at the Swedish national application website www.universityadmissions.se. Rank the chosen programmes in order of preference.
- 2. Submit your supporting documents:** Check what documents you need to submit (i.e. official transcripts, degree diploma/proof of expected graduation, translations, proof of English, passport) and how you need to submit them at www.universityadmissions.se.
- 3. Pay the application fee** (when applicable).

SELECTION CRITERIA/ADDITIONAL INFO

The selection is based on academic qualifications.

TUITION FEES

There are no tuition fees for EU/EEA citizens. For non-EU/EEA citizens the tuition fee for this programme is SEK 145 000 per year. For details on tuition fees, see www.lunduniversity.lu.se.

About the Faculty of Engineering

The Faculty of Engineering at Lund University (LTH) is among the leading engineering faculties in Europe with over 9,000 undergraduate students and 800 postgraduates. LTH is one of the few comprehensive engineering faculties in Sweden, and in addition to traditional engineering programmes we also offer programmes in architecture and industrial design. With a 50-year long history of research and education excellence, we are well equipped to meet the increasing global demand for more sustainable, connected and user-driven technologies, and to provide our students with the knowledge and skills they need in order to succeed within their chosen field.

CONTACT

Programme webpage

www.lunduniversity.lu.se/embeddedee

Programme Director

Johan Wernehag, embeddedee@master.lth.se

+46 46 222 7509

About Lund University

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has 42 000 students and 7 400 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

Lund is the most popular study location in Sweden. The University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. The compact university campus encourages networking and creates the conditions for scientific breakthroughs and innovations. The University has a distinct international profile, with partner universities in over 70 countries.

Lund University has an annual turnover of SEK 8 billion, of which two-thirds go to research. Our research is characterised by both breadth and strength and, according to independent evaluations, over 30 of our research fields are world-leading.

The establishment of the world-leading facilities MAX IV and ESS will have a major impact on future scientific and industrial development in both materials science and life science. MAX IV, which was inaugurated in June 2016, is the leading synchrotron radiation facility in the world, while the European research facility ESS will be the world's most powerful neutron source when it opens for research in 2023. Adjacent to these facilities, Science Village Scandinavia is also being developed into a meeting place and testing environment for research, education and entrepreneurship.

Learn more at www.lunduniversity.lu.se

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