

MSc in Production and Materials Engineering

LUND UNIVERSITY, SWEDEN

- Master of Science in Production and Materials Engineering
- 2 years, full-time, 120 ECTS credits
- Faculty of Engineering
- Lund campus
- Application deadline: January 2020
- Programme start: August 2020

Programme overview

The programme provides students with the knowledge, skills and vision required to solve engineering challenges in product development, the manufacturing process and industrial automation, preparing them to take on leadership roles in globally competitive manufacturing industries. Our courses, seminars, workshops and projects are specifically designed for the student and combine solid theoretical knowledge with hands-on skills. After the programme, the students will be able to analyse, evaluate and optimise complex manufacturing processes and production systems involved in the product realisation.

The programme combines production and materials engineering with a focus on sustainable production, digitalised production, production automation, global production and the global marketplace. The programme also offers the opportunity to specialise in a chosen field of production engineering and has a strong international orientation. It takes advantage of the opportunities available in a multinational group of students, increasing their competencies in intercultural and global management.

Special features of the programme:

- A multidisciplinary approach that provides students with comprehensive knowledge as well as practical skills and abilities. Graduates are prepared to solve cross-functional and interdisciplinary industrial problems with an all-inclusive approach.
- Contextual knowledge of production and materials engineering in a changing world, with a global-to-local perspective.
- System perspective that provides students with the knowledge and skills necessary to understand and manage complex and interdependent processes in production and material processing.
- Hands-on training and project development. The programme has the support of a wide range of industries, from global industrial giants to SMEs, from regional to international companies. Thanks to these strong links with the industry, several courses are organised in active cooperation with industries.

- Comprehensive education in basic sciences and engineering that prepares for a research career in, for example, manufacturing processes, industrial automation, production management, etc.

Programme modules/courses

COMPULSORY COURSES AND NUMBER OF CREDITS: Production Technology (7.5), Flexible Manufacturing Systems (7.5), Advanced Materials Technology (7.5), Simulation of Industrial Processes and Logistical System (7.5), Materials and Process Selection (7.5), Flexible Manufacturing Systems – Advanced Course (7.5), Production Technology II (Advanced Manufacturing Processes) (7.5), Applied FEM (7.5), Project and Research Methodologies (7.5), Master's degree project (30).

ELECTIVE COURSES AND NUMBER OF CREDITS: Applied Robotics (7.5), Industrial Purchasing (7.5), Workshop Practice (7.5), International Product Realisation (7.5), Automation (7.5), Metal Cutting – Advanced Course (7.5), CAD/CAM/CAE (7.5), High Temperature Materials (7.5), Swedish for Exchange Students (7.5).

Career prospects

The need for personnel with specialist knowledge and skills in the area of production and material engineering is widely recognised by many industries and government agencies. According to the Bruegel Blueprint, we will experience stable growth of employment opportunities in industrial production and closely related fields from 2010 to 2030 in the EU, North America and in East Asia. The increasing demand for production engineers is primarily driven by competitive pressure, advancing technology and development of new materials, which force industrial companies to continuously improve and optimise the existing production technologies both in terms of cost efficiency and environmental sustainability.

Well-trained students in production and material engineering have numerous career opportunities. They will be able to find employment in diverse functional areas all around the world, such as product design, production engineering, industrial automation, production maintenance, materials engineering, production management and sales, and operations planning. Graduates from the programme will have plenty of exciting career options and can expect success in the job market.





Entry requirements and how to apply

ENTRY REQUIREMENTS

A Bachelor's degree in mechanical engineering, industrial engineering or equivalent. Completed basic courses in algebra and calculus corresponding to at least 20 credits/ECTS, one course in manufacturing engineering and/or production technology and one course in engineering materials. English Level 6 (equivalent to IELTS 6.5, TOEFL 90). See www.lunduniversity.lu.se for details on English proficiency levels.

HOW TO APPLY

- 1. Apply online:** Go to www.lunduniversity.lu.se/production-materials-engineering. 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:**
 - **General 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
 - **Programme-specific supporting documents:** For information on programme-specific documentation, please check the programme webpage.
- 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. See www.lunduniversity.lu.se for details on tuition fees.

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.

About Lund University

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has 40 000 students and 7 600 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. Lund University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. The University has a distinct international profile, with partner universities in around 70 countries.

Lund University has an annual turnover of SEK 8.5 billion, more than half of which is destined for research. Our eight faculties conduct strong research in many different areas, including over thirty research fields in which we are world-leading. Many scientific breakthroughs and pioneering innovations have originated from Lund University.

Learn more at www.lunduniversity.lu.se

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CONTACT

Programme webpage

www.lunduniversity.lu.se/production-materials-engineering

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