

- Master of Science in Production and Materials Engineering
- 2 years, full-time, 120 ECTS credits
- Faculty of Engineering
- Lund Campus
- Application deadline: January 2024
- Programme start: August 2024

PROGRAMME OVERVIEW

Part of achieving a sustainable society is to consume sustainable products. The sustainability of a product can be evaluated not only from how we use it, but also how it is made and from what materials or material combinations it is made. Focusing on selected material and the manufacturing process, we can design manufacturing system being of resource efficient, providing good working environments, and using the correct technology suitable for the value creation.

The programme provides students with the knowledge, skills and vision required to solve engineering challenges in the manufacturing process, industrial automation, and product development, 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

MANDATORY COURSES AND NUMBER OF CREDITS: Production Technology (7.5), Sustainable Manufacturing Systems (7.5), Advanced Materials Technology (7.5), Materials and Process Selection (7.5), Sustainable Manufacturing Systems – Advanced Course (7.5), Smart Manufacturing (7.5), Applied FEM (7.5), Project Management and Research Methodologies in Supply Chain Management (7.5), Master's degree project (30).

ELECTIVE COURSES AND NUMBER OF CREDITS: Industrial Purchasing (7.5), Workshop Practice (7.5), International Product Realisation (7.5), Automation (7.5), Applied Robotics (7.5), Project in Engineering Mechanics (7.5), Project in Production and Materials Engineering (7.5), Metal Cutting – Advanced Course (7.5), CAD/CAM/CAE (7.5), Working Environment, Occupational Health and Safety (7.5), Environmental issues (7.5), Analytical Microscopy and Sample Preparation (7.5), Design in Thermoplastic Materials (7.5) Industrial Design (7.5), Product Development and Design Methodology (7.5), Powder Technology (7.5), Light Materials (7.5), Swedish for Exchange Students (7.5). We reserve the right to make changes in the elective courses based on the demand for the courses.

List of courses of the programme: www.lth.se/english/study/taprr

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.

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 www.universityadmissions.se, the Swedish national application website. 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 Eng-

lish, 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)

Tuition fees

Tuition fee SEK 170 000 per year for non-EU/EEA citizens. No fee for EU/EEA citizens. See www.lunduniversity.lu.se for details on tuition fees.

Selection criteria/additional information

The selection is based on academic qualifications and on a statement of purpose.

ABOUT THE FACULTY OF ENGINEERING

The Faculty of Engineering, LTH, is a place for dreams and discoveries. We inspire creative development of technology, architecture and design and teach some of Sweden's most attractive Master's programmes, all built on a broad research base. LTH is among the leading engineering faculties in Europe with nearly 10 000 students. Over 1 000 researchers at LTH work hard to improve the quality of life for people and promote more careful use of the Earth's resources. A world record in 5G technology, solar cell-driven water purification, early cancer diagnosis, nanotechnology for more efficient solar panels, and a health-promoting oat drink are some of the innovations developed at LTH. Together we explore and create – for the benefit of the world.

CONTACT

Programme webpage:
www.lunduniversity.lu.se/production-materials-engineering

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Lund University was founded in 1666 and is repeatedly ranked among the world's top universities. The University has around 45 000 students and more than 8 000 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

Learn more at www.lunduniversity.lu.se



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