



LUND
UNIVERSITY

MSc in Biotechnology

LUND UNIVERSITY | SWEDEN

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

PROGRAMME OVERVIEW

Biotechnology is a key enabling technology that offers strong innovation potential for the sustainable development of society. Research and development in biotechnology continue to improve processes and develop products that have profound impact on various sectors, such as healthcare and pharmaceuticals, agriculture, food and feed, environmental remediation, as well as production of chemicals and biofuels.

Lund University is among the leading universities in the world for research and education in biotechnology. It is home to several world-renowned scientists who have strong links to the industry – from large multinational companies to small enterprises based on research done in our departments.

The Master's in Biotechnology is a broad programme covering scientific and technological aspects of biotechnology tools and processes for sustainable manufacturing of bioproducts, for biomedicine and environmental remediation. The students have the possibility to choose among courses oriented towards molecular biotechnology providing knowledge and skills in recombinant gene expression, engineering of proteins and metabolic pathways, and bioprocess development giving insights into fermentation- and enzyme technology, product recovery and analysis, and process and plant design.

To prepare our students for their final semester Master's thesis, nearly all our courses include practical exercises. It is therefore recommended that students who apply to this programme have acquired laboratory skills during their Bachelor's degree.

After completing this programme, you will:

- Have a high level of general skills in the various aspects of biotechnology.
- Have improved your communication skills by way of discussions and by practising written and oral presentations.
- Be able to suggest process requirements for manufacturing of biotech products with regard to the production systems, development of biological catalysts, analytical tools, energy efficiency and sustainability.
- Have the ability to develop business ideas related to biotechnology products/processes.

PROGRAMME MODULES/COURSES

Compulsory courses and number of credits: Bioprocess Technology (7.5), Molecular Biotechnology (7.5) and either Biotechnology, Process and Plant Design (15) or Project in Life Science (15).

Elective courses (in total 60): Metabolic Engineering (7.5), Protein Engineering (7.5), Advanced Analytical Chemistry (7.5), Biophysical Chemistry (7.5), Downstream Processing in Biotechnology (7.5), Environmental Biotechnology (7.5), Enzyme Technology (7.5), Bioanalytical Chemistry (7.5), Process simulation (7.5), Quality and Product Safety (7.5), Sustainable Chemistry and Biotechnology (7.5), Synthetic Biology (15), Automatic Process Control (7.5), Bioinformatics (7.5), Immunotechnology (7.5), Advanced course (15) and Chemometrics (7.5).

CAREER PROSPECTS

Due to our close links with local and international industry, the programme is closely aligned to market needs, and there is a clear emphasis on the engineering aspects of biotechnology. During your studies, you will meet not only researchers at the departments but also guest lecturers from biotech companies working with, for example, product or process development and marketing. Your future job could be anywhere in the world – in a small start-up or a large multinational company, a government authority or a university. Our alumni move on to roles within research and development, process operations, product development and sales.



“The quality of scientific outcomes and reputation of Lund University was one of the key reasons for me applying here. Every course was unique and designed with care, which allows the candidate to thoroughly enjoy the subject and acquire deep knowledge.”

Uthra Gowthaman from India



The programme also provides an excellent foundation for continuing your studies at PhD level.

ENTRY REQUIREMENTS

A Bachelor's degree in biotechnology, biochemical engineering or equivalent. Completed courses in microbiology or biochemistry, and mathematics (linear algebra/calculus and statistics). English Level 6.

HOW TO APPLY

1. Apply online: Go to www.lunduniversity.lu.se/biotechnology. 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 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)

Tuition fees

Tuition fee SEK 170 000 per year for non-EU/EEA citizens. No fee for EU/EEA citizens.

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.

ABOUT LUND UNIVERSITY

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has around 46 000 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.

Lund is considered one of the most popular study locations 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 unique disciplinary range encourages boundary-crossing collaborations both within academia and with wider society, creating great conditions for scientific breakthroughs and innovations. The University has a distinct international profile, with partner universities in approximately 70 countries.

Lund University has an annual turnover of EUR 912 million, of which two-thirds go to research in our nine faculties, enabling us to offer one of the strongest and broadest ranges of research in Scandinavia.

CONTACT

Programme webpage:
www.lunduniversity.lu.se/biotechnology

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