



LUND
UNIVERSITY

BSc in Mathematics

LUND UNIVERSITY, SWEDEN

- Bachelor of Science in Mathematics
- 3 years, full-time, 180 ECTS credits
- Centre for Mathematical Sciences
- Lund Campus
- Application deadline: January 2021
- Programme start: August 2021

Programme overview

This is an academic programme designed for students with a strong interest in mathematics, mathematical statistics and scientific computing. Flexibility and individual adaptation are keywords. The programme is structured in a highly flexible manner, and is designed to give students solid theoretical knowledge in mathematics, while at the same time providing possibilities for each student to pursue his/her own educational profile according to interests and career aspirations.

A vast variety of courses in mathematics, statistics and numerical analysis is available within the programme and can be combined with courses from all other science areas, economy and finance, engineering as well as humanities and social sciences, available at our university or within an exchange programme with other universities.

For students with a strong interest in pure mathematics, the programme offers a path of courses at a higher theoretical level that can be continued at Master's and even further at PhD level.

For those students interested in more applied areas, there is a high degree of flexibility in choosing course combinations suitable for certain professions. For instance, courses in mathematical statistics and numerical analysis can be combined with courses in financial mathematics and economics. Another usual path is combining studies in mathematics and physics. Each direction implies a different combination of courses. Predefined recommended course combinations suitable for the different directions are available and study counselling is provided throughout the entire programme.

Programme modules/courses

The programme consists of compulsory courses, alternative compulsory courses and elective courses, and ends with a Bachelor's degree project on a topic of interest.

COMPULSORY COURSES: The first two terms of study are devoted entirely to compulsory courses that cover basic training in mathematical analysis in one and several variables, algebra, linear algebra and computational programming. In the third term, a basic course in mathematical statistics is offered at half pace. This is the last compulsory course. These courses constitute the theoretical core that is

fundamental to applied mathematics, statistics, mathematical physics, economics and many other areas.

ALTERNATIVE COMPULSORY COURSES: These courses are chosen from a list of courses in pure mathematics, mathematical statistics and numerical analysis. Discrete mathematics, number theory, abstract algebra, topology, ordinary differential equations, complex analysis and differential geometry are some of the main areas in pure mathematics that are available. Courses in mathematical statistics, probability theory and scientific computing provide the balance between mathematical theory and practical applications and provide training in collecting, analysing and modelling data. 30 credits' worth of alternative compulsory courses is required. These courses can be studied at half pace in the third term in parallel with the basic course in mathematical statistics and in the following terms.

ELECTIVES: The elective courses can be chosen amongst more advanced courses within the mathematical sciences as well as other disciplines available at Lund University or within an exchange programme with other universities. At least 30 credits must be courses outside the range of mathematical sciences. Most students choose to combine their mathematical studies with physics, computer science or economics. The purpose of this module is to offer students the possibility to both deepen and broaden their knowledge according to their own objects of interest.

BACHELOR'S DEGREE PROJECT: The project may be done in pure mathematics, mathematical statistics or numerical analysis on a subject of interest chosen in cooperation with a supervisor. The project may be of theoretical character but can also be done in an applied area in cooperation with an industrial partner.

Career prospects

The growth of the information society has led to an increased need for understanding and predicting the real world. There is an increasing demand for people who can structure and analyse the growing amount of produced and stored data. A thorough mathematical education provides the tools for such tasks.





Mathematics is inherent in a manifold of technical and scientific achievements. As an example, we can mention the notion of a differential equation, which so far has been a most adequate tool for describing dynamical phenomena. The subject of mathematics plays a special role as an exact science with emphasis on quantitative aspects. This in turn makes the subject a highly relevant tool in a number of areas where quantitative analysis is needed. Today's advancements in science and technology, medicine and pharmacology, economics and finance would not have been possible without mathematics.

Entry requirements and how to apply

ENTRY REQUIREMENTS

General requirements and courses corresponding to the following Swedish upper secondary school studies: Mathematics 4. 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/bsc-mathematics. 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 INFORMATION

The general average (GPA) of your higher secondary school leaving certificate.

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 Centre for Mathematical Sciences

The Centre for Mathematical Sciences is both part of the Faculty of Science and of the Faculty of Engineering. The Centre consists of approximately 120 employees. We carry out research and teaching in mathematics, mathematical statistics and scientific computing. The personnel of the Centre can be clustered according to different non-disjoint criteria, e.g. according to title, faculty, subject or research groups. The three administrative divisions are: Mathematics (Faculty of Science), Mathematics and Numerical Analysis (Faculty of Engineering) and Mathematical Statistics).

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 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 the most popular study location in Sweden. The University offers one of the broadest ranges of degree programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. With partner universities in around 70 countries, the University's profile is distinctly international.

Lund University has an annual turnover of more than EUR 830 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.

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Programme webpage

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