



LUND
UNIVERSITY

Master's Programme in Physics, Theoretical Physics

LUND UNIVERSITY | SWEDEN

- Master of Science in Physics
- 2 years, full-time, 120 ECTS credits
- Department of Astronomy and Theoretical Physics and Department of Physics
- Lund Campus
- Application deadline: January 2022
- Programme start: August 2022

PROGRAMME OVERVIEW

Do you want to understand the inner workings of nature from a theoretical viewpoint? At the Department of Astronomy and Theoretical Physics, together with the Department of Physics in Lund, we offer a broad programme covering a wide range of topics in theoretical and mathematical physics. You can choose from studying the smallest constituents of matter and their interactions within theoretical high-energy physics, as well as nuclear and solid state physics within mathematical physics. In all cases, you will get a solid basis of theoretical knowledge needed to develop new models and to better understand how nature works.

As a Master's student, you will become part of a vibrant research community engaged in cutting-edge theoretical studies. You begin your studies by taking a number of courses, some of them general, some more specialised, and you have a lot of freedom to tailor your own studies. The programme concludes with a Master's project within one of the research groups.

PROGRAMME MODULES/COURSES

The programme offers a wide range of courses. You can choose from more specialised courses, such as Advanced Quantum Mechanics, Astroparticle Physics and Cosmology, Quantum Field Theory, Quantum Chaos, Solid State Theory and Theoretical Nuclear Physics, as well as more general courses, such as Chaos for Science and Technology, Classical Mechanics, Computational Physics, Electromagnetism, General Relativity, Mathematical Methods of Physics and Statistical Mechanics.

At the end of the programme, you complete an individual Master's degree project corresponding to 30 or 60 ECTS credits.

For information on specialisations and elective courses, see <https://www.fysik.lu.se/en/masters-programme-physics-theoretical-physics>

CAREER PROSPECTS

The Master of Science in Theoretical Physics will give you ample opportunities for pursuing a wide variety of careers depending on your specialisation. Whereas many students go on to do a PhD in theoretical physics and related subjects, it is also possible to find suitable careers outside academia, for example in the fields of

information and communication technology or energy production, where advanced programming and modelling skills are needed.

Two international research facilities create opportunities for theoretical physics graduates in Lund – MAX IV, a synchrotron radiation laboratory that opened in June 2016, and ESS, the European Spallation Source, that is currently under construction.

ENTRY REQUIREMENTS AND HOW TO APPLY

Entry requirements

A Bachelor's degree of at least 180 credits in physics or the equivalent. The degree must include at least 90 credits in physics. English Level 6.

How to apply

- 1. Apply online:** Go to www.lunduniversity.lu.se/theoretical-physics. 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:** 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:** When applying for this programme, you must also submit a 'Summary Sheet' with your application. See the programme webpage for details.
- 3. Pay the application fee (when applicable).**

Selection criteria/additional info

The selection will be based on grades awarded for previous academic courses, particularly qualifying courses, and the statement of purpose (from the applicant's 'Summary Sheet').

Tuition fees

Tuition fee SEK 145 000 per year for non-EU/EEA citizens. No fee for EU/EEA citizens. See www.lunduniversity.lu.se for details on tuition fees.

ABOUT THE DEPARTMENT OF ASTRONOMY AND THEORETICAL PHYSICS

The Department of Astronomy and Theoretical Physics spans a very large range of research activities: theoretical particle physics, computational biology and biological physics, theoretical astrophysics, observational astronomy and research on atomic data, as well as on instrument development. We have vibrant and active research groups in all areas.





ABOUT LUND UNIVERSITY

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has around 44 000 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 almost 70 countries.

Lund University has an annual turnover of more than EUR 880 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.

The establishment of the world-leading facilities MAX IV and European Spallation Source (ESS) will have a major impact on future scientific and industrial development in both materials science and life science. MAX IV is the leading synchrotron radiation facility in the world while ESS will feature the world's most powerful neutron source when it starts producing neutrons in 2023. These facilities together with the new University campus in Science Village will constitute a science complex and an international hub for research, education and innovation in which Lund University plays a central role.

CONTACT

Programme webpage:

www.lunduniversity.lu.se/theoretical-physics

Director of Studies

Johan Rathsmann, johan.rathsmann@thep.lu.se

Programme Coordinator:

Roman Pasechnik, roman.pasechnik@thep.lu.se

Study Advisor

studievagledning@fysik.lu.se

Mathieu Gisselbrecht, +46 46 222 8275

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has around 44 000 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

Ask questions and follow news at facebook.com/lunduniversity



LUND
UNIVERSITY