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 credits. For information on specialisations and elective courses, see www.fysik.lu.se/english/education/start-studying/masters-programme.

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 BA/BSc in physics, mathematics or similar, with 90 ECTS in physics and/or mathematics, including basic knowledge of quantum mechanics. English 6/English Course B. See www.lunduniversity.lu.se for details on English proficiency levels.

HOW TO APPLY
1. Apply online: Go to www.lunduniversity.lu.se/physics-theoretical. 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: When applying for this programme, you must also submit a statement of purpose and letters of recommendation with your application.

4. Pay the application fee (when applicable).

SELECTION CRITERIA/ADDITIONAL INFORMATION

Selection of students is based on previous university/college studies and other merits such as letters of recommendation and statement of purpose.

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. For details on tuition, see www.lunduniversity.lu.se.

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, research on atomic data, as well as instrument development. We have vibrant and active research groups in all areas. Of special relevance for the Master’s programme in astrophysics is the research, e.g., on black holes, X-ray binaries, Milky Way astronomy, the Gaia satellite, planet formation and studies of evolved giant stars.

About the Department of Physics

The Department of Physics has over 300 researchers, teachers, technicians and administrators. We work to extend the understanding of physics and its applications, and to communicate our findings, and those of others, to new generations. We also teach the basics of physics to over one thousand students every year.

About Lund University

Lund University was founded in 1666 and is repeatedly ranked among the world’s top 100 universities. The University has 41,000 students and 7,500 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 Sweden’s most attractive study destination. The University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. The compact university campus encourages networking and creates the conditions for scientific breakthroughs and innovations. The University has a clear international profile, with partner universities in over 70 countries.

Funding of more than SEK 5 billion a year goes to research at eight faculties, which gives us one of Sweden’s strongest and broadest ranges of research activity. Over 30 of our research fields are world-leading, according to independent evaluations.

Two of the world’s leading materials research facilities are currently under construction in Lund: the MAX IV Laboratory, inaugurated in June 2016, is the leading synchrotron radiation facility in the world, and the European research facility ESS, which will house the world’s most powerful neutron source. The two facilities will be of decisive importance for future scientific and industrial development in both materials science and life science.

Learn more at www.lunduniversity.lu.se

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