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 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 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 (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/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.

“We have a lot of group work here, which is a big difference compared to studying in Greece. I think it takes you to another level since you learn how to communicate with others and how to work together to reach the same goal. It prepares you for your future work.”

Asimina Papoulia from Greece
Lund University was founded in 1666 and is repeatedly ranked among the world’s top 100 universities. The University has 40,000 students and 7,400 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. Lund University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. The University has a distinct international profile, with partner universities in over 70 countries.

Lund University has an annual turnover of SEK 8 billion, two-thirds of which are destined for research. Our eight faculties conduct strong research in many different areas, including over thirty research fields in which we are world-leading. Many scientific breakthroughs and pioneering innovations have originated from Lund University.

The world-leading research facilities MAX IV and ESS which are being established in Lund will be of great significance for research and industrial development within materials and life sciences. MAX IV, which was inaugurated in 2016, is the world’s foremost synchrotron radiation facility and the ESS will be the most powerful neutron source in the world once it opens for research in 2023. Science Village Scandinavia is developing nearby, destined to become a meeting place and a test environment for research, education and entrepreneurship.

Learn more at www.lunduniversity.lu.se
Ask questions and follow news at facebook.com/lunduniversity

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. Of special relevance for the Master’s programme in astrophysics is the research on, for example, black holes, X-ray binaries, Milky Way astronomy, the Gaia satellite, planet formation and evolved giant stars.

CONTACT
Programme webpage
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