Photonics is the science and technology of generating, controlling, and detecting light. Photonics is of increasing importance to our society, as illustrated by the 2009 and 2014 Nobel Prize in Physics. Optical fibre communication, which relies on optical fibres combined with several other photonics devices, forms the backbone of today's information technology. Light emitting diodes provide bright and energy saving white lamps for tomorrow's lighting. Our programme offers education in the main areas of photonics: engineering (generation and manipulation of light), communication (transport of information by optical and microwave techniques), diagnostics (utilisation of light in industry, health care, etc.) and component technology (nanophotonics, optoelectronics, solar cells, etc). Our programme provides in-depth understanding of optics and laser technology, practical experience of optical design, practical experience in an optics and laser laboratory, and in-depth knowledge of some of the main photonics applications (e.g. communication or biophotonics).

Programme overview

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This education programme is coupled to world-leading research activities in optics, lasers and their applications, performed at the Lund Laser Centre. NanoLund, with an active research area in applied photonics, is another research centre connected to the programme.

Programme modules/courses

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

Career prospects

Employment opportunities exist in many areas. Applications of photonics include light detection, telecommunications, information processing, illumination, metrology, spectroscopy, medicine, laser material processing, robotics and defense. The photonics industry is in rapid expansion worldwide. In addition, two international research facilities create opportunities for photonics engineers in Lund – MAX IV, a synchrotron radiation laboratory that opened in Lund in June 2016, and ESS, the European Spallation Source that is currently under construction.

Entry requirements and how to apply

ENTRY REQUIREMENTS

A BSc in physics, applied physics or electrical engineering or an equivalent BSc corresponding to at least three years of study in science or engineering. English Level 6 (equivalent to IELTS 6.5, TOEFL 90). See www.lunduniversity.lu.se for details.

HOW TO APPLY

1. Apply online: Go to www.lunduniversity.lu.se/physics-photonics. 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:

   a. 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.

   b. Programme-specific supporting documents: When applying for this programme, you must also submit a statement of purpose and letters of recommendation with your application.

3. 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 fees, see www.lunduniversity.lu.se.
About the Department of Physics
The Departments 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 42 000 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. 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 distinct international profile, with partner universities in over 70 countries.

Lund University has an annual turnover of SEK 8 billion, of which two-thirds go to research. Our research is characterised by both breadth and strength and, according to independent evaluations, over 30 of our research fields are world-leading.

The establishment of the world-leading facilities MAX IV and ESS will have a major impact on future scientific and industrial development in both materials science and life science. MAX IV, which was inaugurated in June 2016, is the leading synchrotron radiation facility in the world, while the European research facility ESS will be the world’s most powerful neutron source when it opens for research in 2023. Adjacent to these facilities, Science Village Scandinavia is also being developed into a meeting place and testing environment for research, education and entrepreneurship.

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