



LUND
UNIVERSITY

Chemistry, Physical Chemistry

LUND UNIVERSITY | SWEDEN

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

PROGRAMME OVERVIEW

Find the right chemistry in Lund. The Master's programme in physical chemistry at Lund University provides a broad and fundamental knowledge of physical chemistry, theoretical chemistry and chemical physics. Furthermore, you will get skills and knowledge important for a position in industry or academy.

The studies build on a bachelor level in chemistry and provides theoretical knowledge and a toolbox of methods and skills necessary to understand and tackle challenges in industry and research regarding for example environment, materials and catalysis.

The programme offers unbroken line of understanding, from quantum mechanical description of atoms and molecules to complex supramolecular structures, as well as their industrial and biological applications. The goal is that you after two years will be able to independently plan, perform and critically evaluate cross-disciplinary projects from a physical chemistry perspective.

The first year of the programme is focused on courses in thermodynamics, colloid chemistry and spectroscopy. Profound theoretical comprehension of fundamental mechanisms and understanding of practical applications are developed using advanced methods such as spectroscopy and calorimetry, together with simulations and theoretical calculations. These courses provide a solid foundation for the second year where the emphasis is on Master degree projects which can be carried out at the University or in a company with a relevant research profile.

Lund university offers a creative and lively scientific milieu close the internationally renowned synchrotron radiation facility MAX IV and the European Spallation Source. Welcome!

PROGRAMME MODULES/COURSES

COURSES AND NUMBER OF CREDITS: The recommended structure for the programme includes the following courses: Molecular driving forces and chemical bonding (15 ECTS), Advanced surface and colloid chemistry (15 ECTS), Molecular quantum

mechanics (7.5 ECTS), Statistical thermodynamics and molecular simulation (7.5 ECTS), Molecular spectroscopy – methods and applications (15 ECTS) and at least one master's degree project (30, 45 or 60 ECTS).

COMPULSORY COURSES: Advanced level courses in chemistry comprising 30 ECTS, of which 15 ECTS should be within physical chemistry, theoretical chemistry or chemical physics, and a Master's degree project comprising at least 30 ECTS.

CAREER PROSPECTS

Graduates from the programme are highly skilled in conducting research and development and they have a diverse set of employers to choose from, both in industry, medicine and academia, within such diverse areas as smart materials, photochemistry, food science and biomolecular assembly. The programme also provides an excellent foundation for PhD studies. The courses are taught by teachers that are also world-leading researchers, providing valuable contacts for future employment. About half of the students graduating from the programme continue with a PhD-degree, while the rest start working in industry, both in the local region and internationally. Previous graduates from our master's programmes in chemistry are in high demand. Examples of positions held by graduates of the master's programme include process engineer for Silex microsystems (Stockholm, Sweden), senior research scientist at Red lead discovery (Lund, Sweden) and technical service and development engineer at the Dow chemical company (Tarragona, Spain).

ENTRY REQUIREMENTS AND HOW TO APPLY

Entry requirements

A Bachelor's degree of at least 180 credits or the equivalent, including at least 90 credits in chemistry, of which at least 15 credits must be in physical chemistry. In addition to courses in chemistry, 15 credits in mathematics are required. English Level 6.

How to apply

1. **Apply online:** Go to www.lunduniversity.lu.se/chemistry-physical. 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.



"I think it's a really good programme because you can select which kind of chemistry you're interested in and take courses about that. I really like the courses here, and the fact that you can pick your courses yourself. I also like the fact that classes are really small – it feels really personal. You often work as a team in the classes. The programme allows for a really good balance between studying and having a personal life as well, which is great."

Floriane Baussière from Switzerland





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 info

The selection will be based on grades awarded for previous academic courses in science, engineering and mathematics.

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 CHEMISTRY

The Department of Chemistry at Lund University provides world-class education and research within a wide area of chemistry. The Department of Chemistry is situated at Kemicentrum, Scandinavia's largest center for research and education in chemistry. It is a unique research environment close to several major research centers, research parks and industries. Our education is closely integrated with the department's research and all our students will have the opportunity to be involved in ongoing research projects during their studies.

The Department of Chemistry has a unique strength in undergraduate and postgraduate education in all areas of chemistry, as we belong to both the Faculty of Science and the Faculty of Engineering (LTH). The student services and support at the department is well-known and much appreciated by our students.

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.

CONTACT

Programme webpage:

www.lunduniversity.lu.se/chemistry-physical

Study Advisors

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Learn more at www.lunduniversity.lu.se

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