

YOUR PERSPECTIVES AS GRADUATE

With our new Masters course, we aim to bring the mindset of sustainability system thinking and decision making into chemistry higher education. With the degree you open up a wide range of new opportunities.

You have ... the skills to apply chemistry to contribute to sustainable development, thus tackling the most pressing challenge of our time.

You are able ... to design chemical products that meet the requirements of function and environment sustainability along the whole life cycle of chemical products.

You know ... how to assess the sustainability of chemical products and services.

You are ... uniquely qualified to implement sustainable chemistry in academia, authorities, industry and related vocational fields and meet the growing demand for professionals with composite training in chemistry and sustainability.

You look ... at Circular economy, it's opportunities and limitations from the perspective of sustainable chemistry.

You have ... knowledge about alternative business models, services and functions of chemical products.

You are ... trained to think in systems, and where to address and shape change, thus making a difference.

You can ... pursue a PhD.

“Chemistry is a key enabler for sustainable development. This means that we have to put chemistry into the context of sustainability. The worldwide first master course “Sustainable Chemistry” aims to enable young professionals to understand the opportunities and limitations of this new perspective on chemistry and allows them to make a difference in their professional practice.

Prof. Dr. KLAUS KÜMMERER, Study Programme Director

“The Master's programme in Sustainable Chemistry has given me a profound insight into this increasingly relevant topic. Through this programme I obtained a new perspective which I can readily implement at my job as a scientific researcher and apply to some of our projects to find more sustainable approaches. It has also been a valuable networking opportunity to connect with other professionals working in different areas but interested in making industry more sustainable.

EDGAR GAMERO, Student

“I welcome this new course on Sustainable Chemistry. An understanding of sustainability and its vital role in the future chemical industry is essential to the training of the modern chemist.

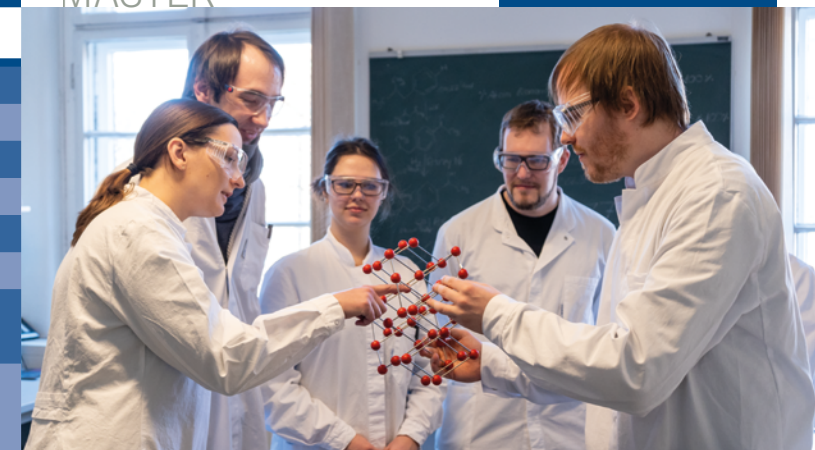
Prof. Dr. JAMES CLARK, University of York, Programme Lecturer

“When starting this study programme, I did not expect it to become my new passion in life. I learned how important it is to change our mentality towards sustainability and I was pleasantly surprised how attainable this goal is practically, starting from our day to day behavior, going to the way we think about chemical business, develop and design chemical materials, do chemical reactions and ending with the way production processes can change for this goal. The course is well structured with international, interdisciplinary character and passionate about the topic professors and even if at times there are some organizational problems, with the help of the dedicated, flexible course organizers they get solved quite fast. I enjoyed all the learnings and projects very much and will try to bring the sustainability ideas to the world of chemistry, I am working in at the moment.

ANASTASIA RESETNIC, Student

SUSTAINABLE CHEMISTRY

MASTER



→ PROFESSIONAL SCHOOL

AT A GLANCE

Degree	Master of Science (M.Sc.)
Credit Points	90
Length of Study	4 semesters
Language	English
Start Date	March, flexible entry options
Application Deadline	December 10 th
Costs	19,000 Euro total plus the current term contribution of c. 210 Euro per term
Application requirements	— first university degree in the field of chemistry or related fields — professional experience of at least one year (entry via modular studies possible with shorter work experience) — sophisticated English skills (e.g. 92 points in the online TOEFL test or other relevant proof)

Programme Director Prof. Dr. Klaus Kümmeler



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(see www.leuphana.de/sustainable-chemistry)

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[professional programme]



CHEMISTRY FOR SUSTAINABILITY

Chemistry provides the building blocks for virtually all of the products used in our everyday life. How can we make sure that the products, processes and chemistry related activities we use every day are in line with sustainable development? In a novel interdisciplinary curriculum, the M.Sc. Sustainable Chemistry teaches the interrelationship of chemistry and sustainability along the life cycle of chemical products, services and functions.

Through training in green chemistry, environmental chemistry, toxicology, and computational chemistry in combination with modules covering resources, sustainability assessment, international regulations, ethics and business models, you are equipped with the necessary expertise for sustainability based decision making in the field of chemistry, its products, services and functions.

+ Your advantages at a glance

Online-based degree

Completion in just two years, extensive e-learning elements in combination with selected clustered classroom and laboratory sessions, effective programme coordination and e-tutoring

International and interdisciplinary study programme

Work on internationally relevant topics in international groups, learning about regional perspectives on questions that concern us all, interdisciplinary projects promote knowledge exchange and transfer to practice

Professional network

Excellent networking opportunities in the field of sustainable chemistry, across institutions and internationally: connect with renowned international lecturers and practitioners and students from all over the world

Tailored to your needs

Content design for the requirements of working professionals, study time per week adjusted to allow studying while working full time

Flexibility in studying

E-learning platform supporting self-organised learning and work in virtual work groups which allows for high flexibility and enables you to individually plan your study time

Quality-assured professional education

External accreditation according to German higher education guidelines, continuous evaluation and quality assurance



INTERDISCIPLINARY M.SC. IN CHEMISTRY

There is a growing need to place sustainability at the heart of the chemical enterprise, to acknowledge chemistry's central role for sustainability and mitigation of climate change. Key to this are skills and knowledge that go beyond conventional chemistry education. Still, training options for chemical experts are rare in this respect.

The worldwide first and unique M.Sc. Sustainable Chemistry fills this gap and provides interdisciplinary training ranging from the study of molecular structures to a macroscopic view on global processes and businesses. International experts from science, authorities, nongovernmental organizations and industry offer diverse perspectives on the concept of sustainable chemistry, opening manifold options for graduates to integrate acquired knowledge into practice, expand their network and explore new professional opportunities.

FLEXIBLE ENTRY OPTIONS

In addition to the full 90 CP programme, two options for 20 CP certificates will be offered:

- Sustainable Chemistry and Benign by Design
- Sustainable Chemistry and Regulatory Affairs

FLEXIBLE STUDYING

The Master is designed so you can continue working full-time during your studies. Course content is provided via our e-learning platform. In addition, two classroom sessions lasting 1 to 2 weeks each will take place on our campus. Classroom sessions include lectures, seminars and laboratory work and provide the opportunity for networking. During e-learning phases, you will be required to self-study as well as work interactively in groups on online assignments. The self-study content will be guided by various materials (books, scripts etc.). You will also be intensively supervised by their lecturers, the programme director and coordinator as well as the e-learning team during the online phases.

4 th Semester	
3 rd Semester	Law, International Regulations & Chemicals Management [5 CP]
	Business Models & Strategies [5 CP]
2 nd Semester	Project Work Chemistry, Sustainability & the Agenda 2030 [10 CP]
	C3 Society & Responsibility [5 CP]
1 st Semester	Sustainable Chemistry & Renewable Energy [5 CP]
	Benign by Design [5 CP]
1 st Semester	Resources, Recycling & Circular Economy [5 CP]
	Sustainability Assessment [5 CP]
1 st Semester	Concepts of Sustainable Chemistry [5 CP]
	Environmental Chemistry [5 CP]
1 st Semester	Toxicology & Ecotoxicology [5 CP]
	Modelling of Chemical Properties & Fate [5 CP]
Green Chemistry [5 CP]	

