

MEDICINAL CHEMISTRY

The Faculty of Health and Medical Sciences, School of Pharmaceutical Sciences at the University of Copenhagen (UCPH) offers a two-year MSc programme in Medicinal Chemistry taught entirely in English.



Profile

Medicinal Chemistry focuses on the part of the drug development process that deals with the design and synthesis of new chemical compounds with the purpose of developing new and improved drugs. The core science subjects, such as organic chemistry, anatomy and immunology, are supplemented by social science subjects, such as mathematics and statistics, to provide you with a comprehensive understanding of the pharmaceutical field.

Key features:

- Unique focus on structure-based drug research and peptide modification
- Wide range of electives and choice of thesis topic allow you to tailor your programme
- Close cooperation with industry
- Research-based training at the highest academic level
- Interdisciplinary approach
- A fully international programme that prepares you for an internationally oriented career
- Varied teaching methods and project work

Structure and teaching methods

All teaching is research based and methods vary, combining lectures, classroom teaching, hands-on laboratory exercises and report, article and poster preparation. Group projects are common. Focus is on an active problem-solving approach that prepares students for the job market.

1) Core programme

The core programme covers organic chemistry and synthesis development with focus on macromolecular and small molecule drugs. You will take courses on the rational design of new drugs and do project work that will give you insight into how modern computerised chemical methods can be used in drug design. You will also take courses on the preparation and modification of peptides and proteins as potential drugs - internationally a fast-track area of growth.

2) Electives and thesis

You can tailor the programme to your interests through your choice of electives and thesis topic. For your electives, you may choose from a wide range of courses at the University of Copenhagen (UCPH) or from other universities in Denmark or abroad. Likewise, there are good opportunities to conduct your industry-based thesis in Denmark or abroad.



MSC IN MEDICINAL CHEMISTRY – PROGRAMME STRUCTURE

BLOCK	Year 1: Compulsory courses and Electives	Year 2: Flexible components and MSc thesis
1	Medicinal and Biostructural Chemistry (7.5 ECTS)	Flexible (Electives or MSc thesis) (15 ECTS) MSc thesis (45 ECTS)
2	Reactions and Synthesis in Medicinal Chemistry (15 ECTS)	
	Structural and Computational Medicinal Chemistry (7.5 ECTS)	
3	Heterocyclic Chemistry (7.5 ECTS)	
	Biopharmaceuticals: Chemical Design & Modification of Biomacromolecules (7.5 ECTS)	
4	Electives (15 ECTS)	

(SUBJECT TO CHANGE)

Career opportunities

The University of Copenhagen (UCPH) is located in the midst of one of the world's leading biotech areas – Medicon Valley – home to almost 300 life science companies. The Faculty of Health and Medical Sciences, School of Pharmaceutical Sciences is known for its extensive cooperation with industry. This location and cooperation provides excellent opportunities to build contacts to future employers.

As a graduate of the programme you can expect to work together with scientists from related fields – for example, pharmacists, pharmacologists and molecular biologists – to design and synthesize new compounds that have the potential to become new drugs or to work to ensure that new drugs are patented.

Admission criteria

To apply for the MSc programme in Medicinal Chemistry you must have completed a BSc in chemistry, medicinal chemistry or pharmacy, or have corresponding qualifications at the bachelor level. As part of your bachelor level education, you must have achieved a specified number of ECTS within specific areas of chemistry and biology. You must have earned your Bachelor's degree a maximum of five years before the first semester of the Master's programme begins.

Applications must include a letter of motivation. An overall assessment is made on the basis of academic qualifications, including, in addition to grades, the relevance of the subjects studied, experience of experimental work and international experience. See also "Find out more".

Non-EU students are required to pay tuition fees. Current tuition fees (subject to change) for non-EU students per academic year: DKK 118,000 (approx. EUR 14,400).

Language requirements: IELTS 6.5; TOEFL 560 (paper) or 83 (Internet-based).

Application deadlines

15 January: non-EU/EEA citizens

1 April: EU/EEA and Swiss citizens

The introduction programme starts at the end of August.

Find out more

More information about the Faculty, the programme and application procedures and requirements is available at:

www.studies.ku.dk/masters/medicinal-chemistry

www.healthsciences.ku.dk/education

More information about living in Denmark and studying at the University of Copenhagen (UCPH) is available at:

www.studies.ku.dk

You can contact us at: medicinalchemistry@sund.ku.dk

