



## PHARMACEUTICAL CHEMISTRY PROGRAMME

Programme type	Master
Field of study	Technological Sciences
Study area	Materials Technologies
Degree	Master degree of Technological Sciences
Duration	2 years
Workload	120 credits
Language of instruction	Lithuanian/English
Location	Vilnius University, Faculty of Chemistry and Geosciences
Starting date	1st of September, 2020
Tuition fee	4234 EUR/year

### PROGRAMME DESCRIPTION

- The objective*

To prepare qualified, motivated and creative specialists with deep knowledge of chemistry, pharmacy, biology and materials (bio)technologies and research skills, able to formulate and solve problems of pharmaceutical chemistry on an independent and academic level, seeking to work in research institutes and industry companies that develop, produce, investigate, and/or supply pharmaceutical products or to continue their studies in doctoral programs.
- Career opportunities*

The graduate pharmaceutical chemists could work in private (biotechnology or pharmaceutical companies) and in public sectors (universities, research institutes, hospital laboratories) as well as in integrated study, science and business centers.
- Access to further studies*

studies in doctoral programs of Technological, Biomedical and Physical sciences.

## KEY LEARNING OUTCOMES

Pharmaceutical Chemistry combines the study of drug discovery and development, pharmacology, biology, analytical techniques, and drug chemistry. The chemical design process and evaluation of potential future medications will be a prime focus of the studies. Students will be able to apply knowledge gained from materials courses, hands-on lab experiences and faculty research to the pharmaceutical industry.

## COURSE INFORMATION

The programme has the following structure:

Course Type	1st Semester	2nd Semester	3rd Semester	4th Semester
<b>Compulsory Courses</b>	Selected Topics in Organic and Bioorganic Chemistry	Chromatography and Mass Spectrometry	Pharmaceutical Biotechnology	Master graduation thesis
	Synthetic Drugs Design	Pharmacodynamics and Pharmacokinetics	Technological Practice in Pharmaceutical Company	
	Validation processes and their application for Life Science research and industry Research Project I	Research Project II		
<b>Elective Courses</b>	Herbal Medicinal Substances and Their Extraction Technologies	Biochemical Analysis in Pharmacy	Bionanomaterials in Pharmacy and Their Technologies	
	Management in a Modern Pharmaceutical Company	Diagnostics and Therapy in Nanomedicine (Theranostics)	Heterocycles in Pharmaceutical Chemistry	
		Vibrational Spectroscopic Analysis of Pharmaceuticals	Cell Biology	
		Medical Inorganic Chemistry	(Q)SAR Methods in Computer-Aided Drug Design	
		Molecular Biology		
		Polymers in Pharmaceutical Technology		

## GRADUATION REQUIREMENTS

## EXAMINATION AND ASSESSMENT REGULATIONS

The main form of assessment is an examination. Every course unit is concluded with either a written or written-oral examination or pass/fail assessment. Student's knowledge and general performance during the examination are assessed by using the grading scale from 1 (very poor) to 10 (excellent).

## ENTRY REQUIREMENTS

*Academic entry qualification overview*

Bachelor of Physical Sciences (Chemistry), Life Sciences (Biology or Biochemistry), Technological Sciences (Biotechnology) or Engineering Sciences (Chemical Engineering or Bioengineering).

English language proficiency - the level not lower than B2 (following the Common European Framework of Reference for Languages (CEFR)).

## APPLICATION AND SELECTION REQUIREMENTS

General chemistry, Analytical chemistry, Physical chemistry, Organic chemistry, Biochemistry

### Academic contact

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### Admission contact

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