

Incoming student mobility

Name of UNIOS University Unit: Department of Chemistry

**COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS**

Department or Chair within the UNIOS Unit	Department of Chemistry
Study program	University graduate study program of Chemistry (research programme and teaching programme)
Study level	Graduate
Course title	Introduction to Medicinal Chemistry
Course code (if any)	KD3211
Language of instruction	English
Brief course description	A brief overview of history of medications. Classification of drugs. Adequate knowledge of the chemistry of medicinal agents, their isolation, synthesis, purification, identification and application of various analytical techniques for their assessment on dosage form, as well as SAR and drug design. Chemistry of different groups of drugs, including neuromuscular blockers, general anesthetics, sedative hypnotics, antipsychotics, peptide hormones, steroid hormones, vitamins, local anesthetics, opioid analgesics, etc. Drug targets (proteins - receptors, enzymes, transport or transmission proteins, structural proteins, nucleic acids, biological membranes). Medicines as analogues of natural compounds - hormones, neurotransmitters, enzyme substrates. Molecular mechanisms of drug action - receptors and signal transmission, enzymes as drug targets - application of inhibitors. The steps that lead from the idea of a new drug to its introduction on the market. Choice of disease. Selection of the site of action of the drug (molecular target). Development of biological tests. Researching the best structure. Definition of pharmacophore and isosteric group. Drug metabolism. Toxicity analysis. Basics of pharmacokinetics and pharmacodynamics. Clinical trials. Economic aspects of drug development and patents.
Course entry requirements (Preceding courses)	-
Form of teaching	Lectures and seminar

Form of assessment	Seminar work and exam
Number of ECTS	5
Class hours per week	2 (lectures) + 1 (seminars)
Minimum number of students	-
Period of realization	Summer semester
Lecturer	Martina Šrajter Gajdošik