

Level: bachelor				
Course title: Chemistry of Natural Products (H-302)				
Status: obligatory				
ECTS: 8				
Requirements: none				
Learning objectives A chemistry-based teaching programme encompassing following types of natural products: polyketides, phenylpropanoids, terpenoids, steroids and alkaloids. Special attention is given to the compounds of medicinal importance and semi-synthetic derivatives originating from natural products.				
Learning outcomes Overcome the necessary knowledge on methods of isolation, biosynthesis and synthesis of selected classes of natural products. Acquaintance with significant chemical properties and biological activities of interest for those natural products.				
Syllabus <i>Theoretical instruction</i> Secondary metabolism: The building blocks and mechanisms for the construction of the skeleton. Structural modifications: C-alkylation reactions, spontaneous reactions, oxidations and reductions. The shikimate pathway: aromatic amino acids and phenylpropanoids. Secondary metabolites of mixed origin: Flavonoids, anthocyanes. The acetate pathway: Polyketides, prostaglandins and leukotrienes. The mevalonate pathway: Terpenoids and steroids. Alkaloids: Tropane alkaloids, cinchona alkaloids, phenyl alkaloids, steroidal alkaloids, opium alkaloids, piperidine and pyridine alkaloids. <i>Practical instruction</i> In accordance with theoretical instruction.				
Weekly teaching load				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 3	Student research:	