

Level: PhD				
Course title: Biochemistry of plant phenolics (DSB609)				
Status: elective				
ECTS: 15				
Requirements: none				
Learning objectives The aim of this course is to provide integrated knowledge of the metabolic fate, chemical structure and pharmacological and biological significance of phenolic compounds from plants. Introducing students to the latest laboratory and instrumental techniques used in chemical and biochemical studies of this class of secondary biomolecules.				
Learning outcomes Upon completion of the course, students are expected to demonstrate broad knowledge of chemical diversity, metabolic fate, distribution and role of phenolic compounds in the metabolism of plants and their pharmacological activities, biological availability and use in modern medicine. In addition, students will be able to use complex instrumental methods for biochemical and chemical analysis of complex mixtures of phenolic compounds.				
Syllabus <i>Theoretical instruction</i> The chemical structure, classification and distribution of plant phenolics. Biosynthesis of phenolic compounds and secondary transformation (hydroxylation, glycosylation, methylation, acetylating et al.). Catabolism of phenolics in plants, animals and microorganisms. Methods for separation and identification of phenolic compounds. Biological functions of phenolic compounds in plants. Chemotaxonomic and phylogenetic significance. Pharmacological activity of plant phenolics and application in phytotherapy. The antioxidant properties of phenolic compounds. Instrumental techniques in analysis of phenolic compounds.				
Weekly teaching load				Other: /
Lectures: 5	Exercises: /	Other forms of teaching: /	Student research: 5	