

Level: Specialist				
Course title: Advanced course of experimental methods for determination of bioactivity				
Status: elective				
ECTS: 5				
Requirements: none				
Learning objectives The goal of the course is to provide students with advanced theoretical knowledge and practical skills for the purpose of estimating biological activities of pharmacologically active compounds and natural products.				
Learning outcomes By the end of this course, students will be able to independently choose, change, develop and apply the appropriate experimental procedures in the study of biological activities and to determine biological activity of tested compounds.				
Syllabus <i>Theoretical instruction</i> Basic notions: types of biological activities, basic principles of biochemical assays; <i>in vitro</i> , <i>in vivo</i> and <i>ex vivo</i> assays; use of laboratory animals in the study of biological activities; application of tissue culture in bioassays; the selection of appropriate experimental method, substrate, target molecules, activators/inhibitors of biological response, method for detecting bioactivity and way of presenting results. Detailed review of selected biological activities: anti-oxidant, anti-inflammatory, anti-cancer, antiviral, antimicrobial, antimutagenic, antifungal, antibiotic, anticoagulant, etc. Selected examples of <i>in vitro</i> , <i>in vivo</i> and <i>ex vivo</i> methods for study of various biological activities. <i>Practical instruction</i> Evaluation of anti-inflammatory, anti-oxidant and antimicrobial potential of selected plant extracts, essential oils and natural products.				
Weekly teaching load				Other:
Lectures: 2	Exercises: 2	Other forms of teaching:	Student research:	