

Course Unit Descriptor

Study Programme: PhD in Molecular Biology			
Course Unit Title: Biochemical Markers of Disease			
Course Unit Code: DMB020			
Name of Lecturer(s): Assoc. Prof. Željko D. Popović, PhD; Prof. Danijela Kojić, PhD			
Type and Level of Studies: Doctor of Philosophy, Third cycle			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Winter/Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 15			
Prerequisites: Biochemistry, Molecular Biology, Animal physiology or similar			
Course Aims: The aim of this course is to introduce to students essentials of molecular medicine e.g. biochemical/molecular markers of diseases, as well as the molecular mechanisms and etiology of the most common disorders.			
Learning Outcomes: Students should be able to understand molecular basis of disfunctions of various organs, importance of the use of biomarkers for diagnosis of disease, as well as monitoring and prognosis during treatment.			
Syllabus: <i>Theory</i> (1) Introduction to molecular medicine. (2) Biomarkers of cardiovascular, hematologic, immunological, pulmonary, gastroenterological and neurological disease and dysfunction. (3) Molecular mechanisms and biochemical markers in cancer, AIDS, viral and bacterial infections. (4) Biochemical methods and molecular biology techniques in clinical biochemistry. (7) Biomarkers in transplantation and toxicology. <i>Practice</i> Student research paper with application in the field of molecular medicine, cancer research, pharmacy, toxicology.			
Required Reading: 1. Mandl, J., Machovich, R., & Csala, M. (2014). <i>Medical pathobiochemistry</i> . Budapest: Medicina. 2. Trull A.K., Price C., Demers L. (2002): Biomarkers of diseases, Cambridge University Press			
Weekly Contact Hours: 10	Lectures: 5	Practical work: 5	
Teaching Methods: Lectures and students practical work.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation		written exam	40
Practical work		oral exam	60