

NAME OF THE COURSE		Biochemistry II						
Code	PMC116	Year of study			3rd			
Course teacher	Viljemka Bučević Popović, Assistant Professor Matilda Šprung, Assistant Professor	Credits (ECTS)			6.5			
Associate teachers		Type of instruction (number of hours)			L	S	E	F
					30	15		
Status of the course	obligatory	Percentage of application of e-learning			10%			
COURSE DESCRIPTION								
Course objectives	The objective of the course is to gain understanding of basic metabolic processes.							
Course enrolment requirements and entry competences required for the course	The course enrolment prerequisites are Organic Chemistry I and Organic Chemistry II.							
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>After completing the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate understanding of fundamental catabolic processes. 2. Show understanding of basic anabolic processes. 3. Explain the mechanisms of regulation of metabolic processes. 4. Explain the mechanisms of storage and immobilization of fuel molecules. 5. Integrate metabolic processes at the organs level. 							
Course content broken down in detail by weekly class schedule (syllabus)	<p>Lectures:</p> <ol style="list-style-type: none"> 1. Introduction to metabolism (2 hours) 2. Glycolysis (2 hours) 3. Citric acid cycle (2 hours) 4. Respiratory chain (2 hours) 5. Oxidative phosphorylation, thermogenesis, oxidative stress (2 hours) 6. Gluconeogenesis (2 hours) 7. Pentose phosphate pathway (2 hours) 8. Glycogen metabolism and glycogen metabolism regulation (2 hours) 9. Degradation of fats and fatty acids, synthesis of ketone bodies (2 hours) 10. Synthesis of fatty acids, triacylglycerol synthesis and storage (2 hours) 11. Cholesterol (2 hours) 12. Amino acid metabolism (2 hours) 13. Hem (2 hours) 14. Nucleotide metabolism (2 hours) 15. Integration of Metabolism (2 hours) <p>Seminars follow lectures, with one lesson per topic.</p>							
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)				
Student responsibilities	Attendance to at least 70% lectures and seminars.							
Screening student work (name the proportion of ECTS credits for each activity so that the total number of	Class attendance	1.5	Research		Practical training			
	Experimental work		Report		(Other)			
	Essay		Seminar essay		(Other)			

<i>ECTS credits is equal to the ECTS value of the course)</i>	Tests	2.0	Oral exam	3.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	<p>Before each two-hour lecture, a quiz is held on the subject from the previous lecture. Student with score of more than 50% of total number of points, gets higher grade for corresponding partial exam (by one). The written exam may be taken as two partial exams. At least 50% score is needed from each partial exam for passing grade on the written exam, followed by an oral exam.</p>					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Jeremy M. Berg, John L. Tymoczko, Lubert Stryer, Biochemistry, 6th Ed.			8		
Optional literature (at the time of submission of study programme proposal)	<p>Robert K. Murray, David A Bender, Kathleen M. Botham, Peter J. Kennelly, Victor W. Rodwell, P. Anthony Weil, Harper's illustrated biochemistry, 2010 Donald Voet, Judith G. Voet, Charlotte W. Pratt, Fundamentals of Biochemistry, 3rd Ed., 2005, John Wiley & Sons, Inc.</p>					
Quality assurance methods that ensure the acquisition of exit competences	<p>Consultations, partial examinations, student survey for subject and teacher evaluation, attendance records, quiz performance analysis, partial and final exams.</p>					
Other (as the proposer wishes to add)						