

Study program : Chemistry			
Type and level of studies: PhD studies of chemistry - BIOCHEMISTRY			
Course unit: Biochemistry of food and nutrition			
Teacher in charge : Vladimir Mihailović, PhD, Scientific Associate			
Language of instruction : English			
ECTS: 10			
Prerequisites: Entered PhD study			
Semester: Optional (winter or summer semester)			
Course unit objective Defining the basic concepts of nutrition. Introduction with chemical composition of food, macro- and microconstituents contents, their energetic values and potential to supply nutritional and energetic needs of people. Understanding the metabolic transformation. Introduction with modern tendencies in food research, which aimed to prevent and control diseases caused by food.			
Learning outcomes of Course unit Students should be competent to apply acquired knowledge and carry out the independent work in the field of food biochemistry and nutrition in further research, modern technologies and practice.			
Course unit contents <i>Theoretical classes</i> Introduction (about food and nutrition). Basic principles of nutrition planning. Estimation the calorific value of food. Basal metabolism. Principles of daily nutrition. Nutrition during the life cycle. Functional food and nutraceuticals. Additives in food (definition, health aspects, classification, preservatives, aromas and flavor modifiers). Nutritive allergens. Biochemical transformations during processing, storage and preservation of food. Toxic substances in food (natural, toxic substances formed during food processing, toxic chemical substances of microbiological origin, heavy metals and other contaminants). The importance of proper nutrition in prevention and treatment of diseases. <i>Practical classes</i>			
Literature 1. D. Armstrong. <i>Free radical and Antioxidant Protocols</i> , Humana Press, Totowa, New Jersey, 2. K. Hensley, R.A. Floyd . <i>Methods in Biological Oxidative Stress. In Methods in molecular biology.</i> Humana Press Inc., New Jersey, 2003. 3. T. S. Tracy, R. L. Kingston, <i>Herbal product: Toxicology and clinical pharmacology</i> , Second edition, Humana Press Inc. Tptowa, NJ, 2007. 4. L. J. Cseke, A. Kirakosyan, P. B. Kaufman, S. L. Warber, J. A. Duke, H. L. Brielmann, <i>Natural Products from Plants</i> , CRC Press Taylor & Francis Group, 2006. 5. W. Vermerris, R. Nicholson, <i>Phenolic compound biochemistry</i> , Springer, Dordrecht, The Netherlands. 2006.			
Number of active teaching hours			Other classes
Lectures: 5	Practice:	Other forms of classes: <i>mentoring system</i>	Independent work:
Teaching methods Lectures, seminars, practical classes			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	5	oral examination	
practical classes/tests	20	written examination	30
Seminars/homework	45	
Project			
Other			
Grading system			
Grade	No. of points	Description	

10	90-100	Excellent
9	80-90	Exceptionally good
8	70-80	Very good
7	60-70	Good
6	50-60	Passing
5	<50	Failing