

Study Programme: Food Engineering, Biotechnology, Pharmaceutical Engineering			
Course Unit Title: Biochemistry			
Course Unit Code: O4BO1			
Name of Lecturer(s): Dr. Mirjana Antov, Full Professor			
Type and Level of Studies: Undergraduate academic studies			
Course Status (compulsory/elective): Compulsory			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 8			
Prerequisites: None			
Course Aims: Course in Biochemistry enables students to gain fundamental scientific and academic knowledge, capabilities and skills in the fields of basic classes of biomolecules, their structures and functions in different types of organisms. Course also covers fundamental metabolic processes, their regulation and integration.			
Learning Outcomes: Knowledge of structures of proteins, enzymes and coenzymes, nucleic acids, carbohydrates and lipids, and their biological functions; knowledge of pathways of their biosynthesis and degradation; knowledge of basic principles of metabolism regulation and integration.			
Syllabus: <i>Theory</i> Introduction to biochemistry. Proteins. Enzymes. Coenzymes. Nucleic acids and their metabolism. Metabolism of proteins and amino acids. Carbohydrates and their metabolism. Oxidative decarboxylation and Citric acid cycle. Lipids and their metabolism. Energy preservation in membranes and oxidative phosphorylation. Integration of metabolism. <i>Practice</i> Laboratory exercises in proteins, enzymes, vitamins, nucleic acids, carbohydrates and lipids.			
Required Reading: Devlin, T.M. (ed. Hoboken, N.J.): Textbook of Biochemistry, Hoboken: Wiley-Liss, 2006 Stroev, E. A.: Laboratory Manual in Biochemistry, Moscow: Mir Publishers, 1989			
Weekly Contact Hours: 6		Lectures: 3	Practical work: 3
Teaching Methods: Lectures and students' lab exercises			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	-
Practical work	25	oral exam	40
Preliminary exam(s)	30	
Seminar(s)	-		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.