

Course Unit Descriptor

Study Programme: Biotechnology			
Course Unit Title: Water Technology			
Course Unit Code: O5PBO1			
Name of Lecturer(s): Associate Professor Jelena Prodanović, Full Professor Marina Šćiban			
Type and Level of Studies: Undergraduate Academic Studies			
Course Status (compulsory/elective): Compulsory for Food Biotechnology, elective for Biochemical Engineering			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 6			
Prerequisites: None			
Course Aims: Acquiring of necessary knowledge and skills in the field of water treatment/preparation in factories of food industry and biotechnological production and water supplies.			
Learning Outcomes: Understanding of importance and role of water in food and beverages production and in water supply as well. Knowing of required drinking water quality and quality of water used for different purposes in industries. Knowing and understanding of means for achieving required water quality (water treatment processes).			
Syllabus: <i>Theory</i> Water quality characteristics and water quality standards. Source water quality and source water protection. Water supply. Water treatment processes: water clarification, removal of unstable constituents, removal of gases, removal of natural organic matter and organic pollutants, correction of inorganic matter content and inorganic pollutants removal, disinfection. Water treatment plant: factors for selection of treatment technology, conventional water treatment schemes. <i>Practice</i> Calculations in the field of water treatment.			
Required Reading: 1. MWH's Water Treatment: Principles and Design (Revised by: J.C. Crittenden at al.). 3rd Edition. John Wiley & Sons, Inc., 2012. 2. AWWA, ASCE: Water Treatment Plant Design. 4th Edition. McGraw-Hill. Inc., 2005. 3. Spellman, F.R.: Handbook of Water and Wastewater Treatment Plant Operations. CRC Press, 2009.			
Weekly Contact Hours: 6	Lectures: 3	Practical work: 3	
Teaching Methods: Lectures, practical lectures and tutorials.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	6	written exam	/
Practical work	/	oral exam	60

Preliminary exam(s)	10+14+10		
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.			