Course Unit Descriptor

Study Programme: Food engineering

Course Unit Title: Technology and Quality Control of Water and Wastewaters

Course Unit Code: O6KKO2

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

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: 6

Prerequisites: None

Course Aims:

Acquiring of necessary knowledge and skills in the field of water and wastewaters treatment considering next aspects: a) quality control of water and wastewaters, b) monitoring and control of water treatment process and wastewater purification.

Learning Outcomes:

Understanding of importance and role of providing required quality of water and wastewaters by providing appropriate quality of water and wastewaters treatment process. Understanding of water quality control and monitoring and control of water treatment process and wastewater purification as means for providing required quality. Knowing of methods for quality providing (monitoring; water and wastewater treatment processes).

Syllabus:

Theory

General aspects of water quality. Characteristics of water and wastewater quality. Water treatment processes: water clarification, removal of unstable constituents, removal of gases, removal of organic and inorganic matter, disinfection. Wastewater treatment processes: primary, secondary and tertiary treatment. Water and wastewaters quality control (monitoring): monitoring concept and elements of monitoring design; water source monitoring, water treatment monitoring, water distribution monitoring; wastewaters treatment monitoring.

Practice

Calculations.

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. Liu, D.H.F., Lipták, B.G.: Wastewater Treatment, CRC Press, 2000.
3. Spellman, F.R.: Handbook of Water and Wastewater Treatment Plant Operations. CRC Press, 2009.

Weekly Contact Hours: 5	**Lectures:** 3	**Practical work:** 2

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.			