

Study Programme: Environmental Engineering			
Course Unit Title: Chemical Principles in Environmental Engineering			
Course Unit Code: Z109			
Name of Lecturer(s): Maja Turk-Sekulić			
Type and Level of Studies: Bachelor level			
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: Introducing students of technical profession to the basic chemical principles and laws.			
Learning Outcomes: Acquiring basic knowledge of fundamental chemical principles which enable better understanding of a great number of chemical processes and reaction phenomena important to the field of Environmental engineering.			
Syllabus: Basic principles of the green chemistry. Types and characterization of organic compounds. Chemistry of organic reactions. Classification of organic pollutants. Toxicology of organic compounds. Coordination compounds. Colloidal systems in the environment. Basic principles of analytic chemistry. Qualitative and quantitative chemical analysis. Elements of the main group of the periodic table, compounds and chemical reactions: hydrogen, IA and IIA group; IIIA and IVA group; VA and VIA group; VIIA group. Elements of the sub-groups: IB (Cu, Ag, Au), IIB (Zn, Cd, Hg), VIB (Cr, Mo, W) and VIIB (Mn) and elements of the Fe triad: Fe, Co, Ni. Transformation processes and classes of the inorganic contaminants.			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours: 6		Lectures: 3	Practical work: 3
Teaching Methods: Lectures. Laboratory and Computing Practice. Consultations – individual and group. During semester students are required to attend lectures, computing and laboratory practice. After successfully realized examination prerequisites, students take the final exam in written form, which consists of computational and theoretical part. Computational part of the final exam can be quarterly taken through the two colloquiums.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Group Assignment		Examination Assignment	
Exercises			
Test			

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