

Table S2.6.4. Form for the preparation of the course information sheets				
Name of the subject Environmental chemistry				
Code of the subject	Status of the subject	Semester	Number of ECTS credits	Class load
	Optional	Autumn, Winter	10	5
Study programme for which it is organized PhD Program "Natural sciences and Technology for Sustainable Development", Module Environment protection 3 rd degree				
Dependency by other subjects No prerequisites				
Objectives of studying this subject The aim of this course is for students to gain knowledge about pollutants, their interaction with the environment and their negative effects that can cause in ecosystems.				
Contents of the subject (teaching units, forms of students' individual work, forms of testing) presented per working weeks in the academic calendar:				
Preparatory week				
I week	Substances of anthropogenic origin in the environment.			
II week	Flow and processes that cause the formation and distribution of pollutants in the atmosphere.			
III week	Properties and chemical transformations of pollutants in the environment.			
IV week	Sulfur and nitrogen oxides, ozone, fluorides, carbon (II) -oxide, nitrogen (I) -oxide, methane, halogenated hydrocarbons.			
V week	Classification of pollutants according to environmental impact.			
VI week	Effects due to their deposition (vegetation damage, metal corrosion, damage to industrial facilities and installations, climate change, deterioration of freshwater quality, soil, sea, forest damage, etc. ecosystem. Human health.			
VII week	Chemicals that pollute the soil			
VIII week	Micropollutants of organic origin in waters. Adsorption, sorption, distribution.			
IX week	Organic acids and bases. Bioaccumulation. Transformation processes: oxidation and reduction, photolysis, hydrolysis, biodegradation.			
X week	Polychlorinated biphenyls and chlorinated insecticides. Carbamates and organophosphorus insecticides.			
XI week	Herbicides. Phenols. Halogenated aliphatic and monocyclic aromatic hydrocarbons.			
XII week	Phthalate esters. Polychlorinated dibenzo-p-dioxins.			
XIII week	Polycyclic aromatic hydrocarbons.			
XIV week	Heavy metals.			
XV week	Biological contaminants. Radiological contaminants.			
Methods of education				
<ul style="list-style-type: none"> • lectures • experimental and laboratory work • consultations 				
Students' load				
<u>Weekly</u>			<u>In Semester</u>	
3 hours lectures 2 hour tutorial 8 hours and 20min individual work including consultations Total: 13 hours and 20 minutes			300 hours Including preparatory and additional work	
Students' obligations during the teaching:				
Students are required to attend lectures regularly				
Literature:				
<ol style="list-style-type: none"> 1. Abdullah, M.J., Ringstad, O. And Kveseth, N.J. (1982): Polychlorinated biphenyls in the Sediments of the Inner Oslofjord: Water, Air and Soil Pollution. 2. Vukašin D. Radmilović, "Kancerogeni u radnoj i životnoj sredini", IP Velašta, Beograd 2002.g. 				

Learning outcomes (complied with the outcomes for the study programme):Knowledge and understanding:

On completion of this course the student will be able to:

- recognizes substances of anthropogenic origin in the environment,
- explains the flow and processes that cause the formation and distribution of pollutants contaminants in the environment as well as their properties and transformations
- classifies basic groups of inorganic and organic pollutants / contaminants,
- compares the basic types of pollutants / contaminants by their properties, structure and their toxicity to flora and fauna, humans and the environment
- integrates the adopted theoretical and experimental knowledge in the direction of protection of the environment and man from pollutants / contaminants
- plans a strategy for the protection of the environment and man from potential accident situations
- recommends experimental techniques for monitoring important polutants / contaminants

Transferable / Key Skills and other attributes:

- Communication skills: presentations, way of expressing oneself in the written exam.
- Basic laboratory skills
- Teamwork skills

Forms of tests and evaluation:

- completed lab work, 25%
- written examination 50%
- other activities (homeworks...) 25%

Name and surname of teacher and associate:

To be decided

Particularities needed to be emphasized for the subject:

Note (if needed):