

Course Information Sheet

University: <i>University of Prešov</i>	
Faculty: <i>Faculty of humanities and natural sciences</i>	
Code: <i>2EKO/CHZP/22</i>	Title of Course: Chemistry of the Environment
Form of Study: <i>lecture, practical seminar</i>	
Number of contact hours:	
per week: <i>2 hours of lecture/1 hour of practical seminar</i>	
per level/semester:	
<i>20 hours of lectures, 10 hours of practical seminars, 60 hours of self-study, 30 hours of preparation for semester work</i>	
Number of credits: <i>4</i>	
Semester: <i>1st year of study, summer semester</i>	
Degree/Level: <i>1</i>	
Prerequisites: <i>-</i>	
Grading Policy (Assessment/Evaluation):	
<i>Active 80% student participation in the seminar (2 absences without excuse) and presentation of the semester work.</i>	
Aims and Objectives:	
<i>Graduate of the course</i>	
<ul style="list-style-type: none"> - can define the basic chemical characteristics of individual components of the environment - soil, water and air - can point out the main problems that arise in the pollution of these resources and describe the impact of individual polluted environmental components on the health of human society. - is able to synthesize knowledge from various scientific disciplines and apply them in the field of environmental protection - controls current legislation on chemistry and environmental protection, - the student knows the basic procedures of soil and water sampling and can perform simple analyzes of these samples - the student is able to synthesize the acquired knowledge with knowledge from other scientific disciplines and apply them in the field of environmental protection 	
Syllabus/Indicative Content:	
<ol style="list-style-type: none"> 1. Introduction to environmental chemistry - definition of basic terms 2. Soil I - definition and composition of soil, chemical properties of soil 3. Soil II - chemical properties of soil, fertility, erosion, fertilizers 4. Soil pollution - inorganic and organic contaminants, removal 5. Hydrosphere I - distribution, hydrological cycle, physical and sensory properties of water, distribution 6. Hydrosphere II - chemical composition and reactions, drinking water, use of water 7. Water pollution - inorganic and organic pollutants of groundwater and surface water, wastewater and its management 7. Atmosphere I - chemical composition, energy balance, oxygen and water in the air, particles in of air 8. Atmosphere II - chemical reactions in the troposphere and stratosphere 9. Air pollution - primary and secondary pollutants, greenhouse effect, acid rain, smog, ozone 10. Waste management - waste management, radioactive waste, legislation 11. Chemistry and environmental protection legislation 12. Modern analytical methods - characteristics and division of methods, general procedure in analysis, use of methods in environmental protection 13. Demonstration of analytical methods in practice - HPLC, AAS 	
Suggested readings:	

Manahan, Stanley E. "ENVIRONMENTAL SCIENCE, TECHNOLOGY, AND CHEMISTRY"

Environmental Chemistry, Boca Raton: CRC Press LLC, 2000

Harrison, R.M. Understanding our environment. An Introduction to Environmental Chemistry and Pollution. University of Birmingham.1999.

Language of Instruction: *english*

Other course information:

Grading history

A	B	C	D	E	FX
a	b	c	d	e	f

Uvádza sa percentuálny podiel hodnotených študentov, ktorí získali po zapísaní predmetu hodnotenie A, B, ... FX. Celkový súčet a, b, c, d, e, f je 100. Ak študent v jednom roku získal FX a po ďalšom zapísaní predmetu hodnotenie D, zohľadnia sa obe jeho hodnotenia.

Lecturer/Instructor: *RNDr. Lenka Demková, PhD.*

Last update: *12.01.2022*

Approved by: