

		UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik					
		Study program: <i>Chemical Engineering and Technology</i>					
		I study cycle		I year			
Course name		Fundamentals of Environmental Protection					
Department		Department for Environmental Protection – Faculty of Technology Zvornik					
Course code			Course status		Semester	ECTS	
04-1-010-2			Obligatory		II	5	
Professor/s		PhD Slavko Smiljanić, Associate Professor					
Assistant/s		MSc Jelena Vuković, Senior Teaching Assistant					
Class fund / teaching load (weekly)			Individual student workload (in hours per semester)			Coefficient of student Workload, So	
Lectures	Auditory exercises	Laboratory exercises	Lectures	Auditory exercises	Laboratory exercises	So	
2	0	2	30	0	15	1.5	
Total teaching load (in hours, per semester) $2*15 + 0*15 + 2*15 = 60$ h				Total student workload (in hours, per semester) $2*15*1.50 + 0*15*1.50 + 2*15*1.50 = 90$			
Total course load (teaching + students): $60 + 90 = 150$ per semester							
Learning outcomes		After finishing the course, students will be able to: <ol style="list-style-type: none"> understand basic terms related to pollution and environmental protection perceive and define the most important issues in the environmental protection field rank ecological issues relative to human health and life quality develop awareness of the need to protect the environment understand technologies in the environmental protection comprehend the multidisciplinary approach to environmental protection issues. 					
Prerequisites							
Teaching methods		Lectures, laboratory exercises, seminar paper, mid-term tests (colloquia).					
Syllabus outline per week		<ol style="list-style-type: none"> Introduction to environmental protection. Environment. Biosphere, anthroposphere and ecosystems. Sustainability. People and the environment. Dangers and risks in the environment. Atmosphere. Structure, composition and properties of the atmosphere. Air pollution. Main air pollutants. Basics of the flue gas treatment. Acid rains. The greenhouse effect. Ozone layer depletion. Water. Composition and properties. Water pollution. Main pollutants in the water. Basics of the water treatment. Soil. Composition and properties of soil. Soil pollution. Main pollutants in the soil. Basics of the soil remediation. Waste. Types of waste and properties. Basics of the waste management. Noise. Radiation. Mid-term tests are taken after the 8th week and the 15th week. Semester verification is required after the 15th week.					
Obligatory literature							
Author/s		Publication name, Publisher			Year	Pages	
Han, D.		Concise Environmental Engineering, Ventus Publishing ApS			2012	1-148	
Manahan, S.E.		Environmental Chemistry, Boca Raton: CRC Press LLC			2009	1-783	
Weiner, R.F., Matthews, R.		Environmental Engineering, 4th Edition, Butterworth Heinemann,			2003	1-510	
Kostić, A.		Inženjering zaštite životne sredine, Hemijski fakultet Beograd,			2007	1-350	

Liu, D.H.F., Liptak, B.G.	Environmental Engineering's Handbook, CRC, Press LLC, Second Edition	1999	1-1454	
Additional literature				
Author/ s	Publication name, Publisher	Year	Pages	
Pfafflin, J.R. Ziegler, Edward, N. (Editors)	Encyclopedia of environmental science and engineering, CRC Press Taylor & Francis Group.	2006	1-1408	
Harrison, R.M.	Understanding Our Environment, An Introduction to Environmental Chemistry and pollution, 3Th Edition, The University of Birmingham, UK, Royal Society of Chemistry.	1999	1-463	
Obligations, assessment methods and grading system	Type of evaluation of the student		Points	Percentage
	Pre-exam obligations			
	Attendance		6	6 %
	Seminar paper		14	14 %
	Mid-term test (Colloquium) 1		25	25 %
	Mid-term test (Colloquium) 2		25	25 %
	Final exam			
	Final exam (oral)		30	30 %
TOTAL		100	100 %	
Web page	www.tfzv.ues.rs.ba			
Date	2023			