

Study program: Environmental Protection			
Course title: Environmental Protection Systems			
Professor/assistant: Miloš S. Ristić			
Type of course: compulsory			
ECTS credits: 6			
Pre-requisites: -			
Aims of the course: Prepare students to: get acquainted with the law and by-laws in the use and protection of water, air and soil, the quality of the interior and exterior air, the quality of technical and drinking water, basic mechanical and hydro-mechanical operations, methods and techniques of purification of liquids and gases and soil protection.			
Learning outcomes: Student will be able to: understand the basics of processes and devices for minimization and elimination of environmental pollution, independently identify the type of pollution of natural watercourses and the type of wastewater, as well as procedures for purification of wastewater, understand processes that lead to degradation of the environment and be able to use environmental protection processes as well as different methods of restoration and remediation.			
Syllabus			
<u>Theoretical part</u> Legislative and by-laws in the field of water, air and soil use and protection. Transformation and transport of pollutants. Classification of technological operations represented in environmental technologies. Material separation processes. Heat and diffusion methods. Getting acquainted with the basic technologies for purifying gases and liquids. Basic properties of aerodynamic systems. Basics of the theory of air purification. Procedures and devices for separating solid particles from gases. Procedures and devices for separating gaseous pollutants from gases. Catalytic processes of separating organic pollutants. Basic plant types. Basic processes and devices for purification of liquids. Processes, devices and plants for the processing of industrial and municipal wastewater. Remediation of surface mines and landfill sites (principles of biological recultivation of degraded land, examples of good practice).			
<u>Practical part</u> Demonstration of the operation of basic devices for the mechanical and electrostatic separation of solid particles from the air. Visit to an industrial plant with a system for controlling emissions of waste gases and practical introduction to the basic processes of separating particles and gases from the air. Visit to an industrial wastewater treatment plant.			
Literature			
<ol style="list-style-type: none"> 1. J. Hodolić i dr. <i>Sistemi za upravljanje zaštitom životne sredine</i>, Fakultet tehničkih nauka Novi Sad, 2013 2. Grupa autora, <i>Tehnološki sistemi zaštite</i>, Fakultet zaštite na radu Niš, 2008 3. Grupa autora, <i>Tehnika i tehnologija zaštite životne sredine</i>, SMEITS, 2010 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 2	Research work:	
Teaching methods			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	-
practical training	-	oral exam	30
colloquium(s)/seminar papers	40/20		
Sum	70	Sum	30