

Study program: Environmental Protection			
Course title: Energy and Environment			
Professor/assistant: Aleksandra Boričić / Natalija Tošić			
Type of course: compulsory			
ECTS credits: 6			
Pre-requisites: -			
Aims of the course: Prepare students to: integrate concepts such as energy, energy resources, heat balance, energy reserves, and renewable and non-renewable energy sources, learn about ways to protect the environment, apply the use of clean technologies in industry, identify and implement legislation related to environmental protection.			
Learning outcomes: Students will be able to: analyze problems related to energy transformation and balance in teams or independently, define the energy polluters, make the thermal load of the environment, describe the principles of analysis of the impact of energy transformations in the environment.			
Syllabus			
<u>Theoretical part</u> Concept and types of energy. Useful energy. Natural energy. Energy resources. Renewable sources of energy. Non-renewable energy sources. Energy production. Energy transformation and balance. Transformation of energy systems. Energy polluting the environment. General information on energy pollutants. Thermal power plants. Power plants in the industry. Transport and urban areas. Air protection. Thermal load of environment. Radioactive contamination of the environment. Types of radiation. The impact of nuclear power plants. Industrial waste. Waste Management. Energy efficiency and measures to improve energy efficiency. Emissions of pollutants. Kyoto Protocol. Denmark strategy. Legislation.			
<u>Practical part</u>			
Literature			
<ol style="list-style-type: none"> 1. Milun Babic, Nebojsa Lukic, Dusan Gordić: Energy and Environment (in Serbian), Faculty of Mechanical Engineering, 2008 2. Nenad Zivkovic, Amelia Djordjevic: Air Protection (in Serbian), Faculty of Occupational Nis 2001 3. Milan Despotovic Milun Babic: Energy of biomass, monographs (in Serbian), Faculty of Mechanical Engineering, Kragujevac, 2007 4. Nebojsa Lukic Milun Babic: Solar Energy, monographs (in Serbian), Faculty of Mechanical Engineering, Kragujevac, 2007 5. Bozo Udovičić: Energy and Environment (in Serbian), Volume I, II, III, IV, IRO "Building Book" Belgrade, 1989 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 3	Research work:	
Teaching methods Combination and interactive approach with practical problem solving.			
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	30
practical training	10	oral exam	-
colloquium(s)/seminar papers	50		
Sum	70	Sum	30