

Study program / course: Mechanical Engineering			
Type and level of study: Bachelor Academic Studies			
Name of subject: Energy and Environment			
Lecturers: Babic J. Milun, Bojic Lj. Milorad, Milovanovic M. Dobrica, Lukić S. Nebojsa, Jovičić M. Nebojsa, Gordic R. Dusan, Despotovic Z. Milan, Šušteršič M. Vanja			
Status of cases: Obligatory, joint for all modules, IV semester			
Number of ECTS: 6			
Condition: None			
The aim of the subject			
Training for the assessment of institutional capacity in the field of natural resources and waste disposal, an appropriate package of institutional reforms at the municipal level and the state. Maintenance of the rich biological diversity and natural beauty of Serbia with a permanent investment in the economy and social activities, and with controlled growth and sustainable use of natural resources.			
The outcome of the case			
After completing the course students will be able to team and independently involved in solving problems related to: Energy transformation and balance, Energy polluters life environment, Thermal load of the environment, Radioactive load of environment, Analysis of the principles of energy transformation in environment.			
Content objects			
<i>Theoretical and practical teaching:</i> Introductory definitions (Concept and types of energy, "Usable" energy, "Natural" energy, Energy resources, Energy and environment, Role of energy in the functioning of biological, social and industrial systems), Energy transformations and balances (Systems of energy transformation, Energy transformation and the natural environment, Application of the principle of conservation energy in the creating energy balances, Macro and micro energy balances, Planetary and locally energy balances); Energy environment polluters (The general about energy pollutants, Thermal power plants, Power plants in the industry, Hydroelectric power, Traffic, Urban areas); Thermal ballast of the environment (thermal ballast of the atmosphere, thermal load of the rivers, Scatter of the thermal pollution); Radioactive loud of the environment (Types of radiation, The impact of nuclear power, Radioactive wastes, Principles of radiation protection)			
<i>Training: Exercises, Other forms of teaching, Research study</i>			
Recommended reading:			
1. Milun Babic, Neboša Lukic, Dusan Gordic: Energy and Environment, (in the script preparation), 2008.			
2. Milun Babic, Radoslav Vulovic: Managing energy and eco-projects, script; Faculty of Mechanical Engineering, Kragujevac, 2004.			
3. Milan Despotovic, Milun Babić: Biomass energy, monographs, Faculty of Mechanical Engineering; Kragujevac, 2007.			
4. Neboja Lukic, Milun Babic: Solar energy, monographs, Faculty of Mechanical Engineering, Kragujevac, 2007			
Number of active teaching classes			Other hours: 1
Lectures: 2	Exercises: 1.6	Other forms of teaching: 0.4	Research: 1
Methods of teaching performance:			
Interactive classroom lectures and exercises, development of two so-called introductory seminar and a final paper			
Assessment of knowledge (maximum 100)			
Pre-final exam obligations	Points	Final exam	Points
Activity during the lectures	10		
Practical classes:		Oral (presentation of final seminar paper)	40
Colloquiums(s) :			
Seminars-and conference work (two seminars)	50		