

Study program / course: Mechanical Engineering			
Type and level of study: Master academic studies			
Course: Renewable energy sources 2			
Lecturers: Jovičić M. Nebojša, Gordić R. Dušan			
Status of course: Elective for module M₄, III semester			
Number of ECTS: 6			
Precondition: Renewable energy sources 1			
The objective of course: <ul style="list-style-type: none"> - To introduce the students with potential and importance of using wind and small hydropower plants, and - To give the students necessary knowledge and skills for practical application of wind and small hydropower plants for electricity production. 			
The outcome of course After finishing the course students will be able: <ul style="list-style-type: none"> - To recognize the importance of wind energy and small hydropower as renewable energy sources, - To analyze competently low regulation in area of renewable energy sources, - To design basics elements of small scale wind turbine and hydropower plant, - To make financial projection of investments in projects of renewable energy sources. 			
Syllabus Theoretical study Introduction of wind energy. Classification of wind turbine. Various types of wind turbines. Analyses of design for small wind turbine. Theoretical aspects of wind turbine. Modeling of ideal rotor impeller. Calculation of wind turbine working characteristics. Hydraulic structure of small hydropower plants. Equipment of small hydropower plants. Practical classes Modeling of ideal rotor impeller. Calculation of wind and small hydroturbine working characteristics.			
Recommended reading <ol style="list-style-type: none"> 1. Jovičić N., Energija vetra, skripta, Mašinski fakultet u Kragujevcu, 2007 2. Gordić D., Energija malih vodotokova, Mašinski fakultet u Kragujevcu, 2007 			
The number of hours of active teaching:			Other classes:
Theory: 3	Practical classes: 1.4	Other forms of teaching: 0.6	Research study: 1
Methods of teaching			
Evaluation of knowledge			
Pre-final exam obligations	Points	Final exam	points
Activities during the classes:	10	Final exam	20
Practical classes:			
Colloquiums(s) :	40		
Seminar(s) :	30		