Course Unit Descriptor

Study Programme: Energy And Process Engineering
Course Unit Title: Thermoenergetics and energy transformations
Course Unit Code: M3226
Name of Lecturer(s): Stepanov Borivoj, Kljajić Miroslav
Type and Level of Studies: bachelor
Course Status (compulsory/elective): compulsory
Semester (winter/ summer): summer
Language of instruction: english
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 4
Prerequisites: none
Course Aims:. Acquiring basic knowledge in the field of applied thermoenergetics, directions of development, current problems, method of calculations
Learning Outcomes: Students will be able to understand basic concepts in the field of thermoenergetics. They will master the factors that influence the efficiency of energy transformation. They will be able to understand the work of basic elements of thermoenergetic systems as well as their calculation procedures.
Syllabus. Energy resources and strategy of rep. of Serbia. Energy sector and global warming. Carbon capture and storage. Possibilities of coal substitution. New methods for fossil fuel extraction. Virtual tour to thermal power plant. Efficiency of energy transformation. Ways of energy transformation increase. Phases of thermal power plant construction. Thermal power plant equipment. Transformation of energy in turbines. Processes, design and calculation. Transformation of energy in boiler. Processes, design and calculation. Heat scheme calculation. Cooling system. Support systems. Ecological systems.
Required Reading: Relevant literature in English, tbd

Weekly Contact Hours: 2	**Lectures: 3**	**Practical work: 2**

Teaching Methods: Lectures, Auditory Practice. Visits to the industrial plants.
Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			