C O U R S E G U I D E – s h o r t f o r m

Academic year 2014-2015

Course name[1]	**ENERGY AUDITS**					Course code		IM.414.DO.DS-2	
Course type[2]	DS	Category[3]	DO	Year of study	4	Semester	7	Number of credit points	4

Faculty	Mechanical Engineering	Number of teaching and learning hours[4]					
Field	Mechanical Engineering	Total	L	T	LB	P	IS
Specialization	Mechanical Engineering	42	28	-	-	14	14

Pre-requisites from the curriculum[5]		
	Compulsory	Engineering Thermodynamics and Thermal Equipment
	Recommended	Heat Transfer

General objective [6]	Students should acquire knowledge regarding thermal phenomena and shold learn how to apply this knowledge when performing energy audits upon thermal systems and equipment .
Specific objectives[7]	• cquire knowledge regarding thermal systems analysis in terms of energy interactions and performance;4) familiarize students to perform energy balances and audits on the basis of available data acquired from usual thermal systems and heat engines. • create basic abilities in performing energy balance and in data interpretation; • acquire knowledge regarding: - energy balance methods; - energy saving and implementing energy saving methods - ways to improve thermodynamic efficiency of machines and thermal equipment and systems.
Course description[8]	<u>1. Basics</u> Forms of energy. Energy generation and use. Energy efficiency. Energy audit and energy balance: definitions. Energy management. The National Authority for Energy Regulation. <u>2. Energy balance</u> Basics. Definitions. Main types of energy balances. General principles of energy balance performing. Assessment of the energy efficiency of energy-consuming processes. <u>3. Energy strategies</u> Basics. Organization structure. Energy policies.Planning. <u>4. Energy audit</u> Basics. Energy audits types. Preliminary audit. Phases of the complete energy audit and its flowchart. Tools used in energy audits. The audit report.

Assessment			Schedule[9]	Percentage of the final grade (minimum grade)[10]
Continuous assessment	Class tests along the semester			%
	Activity during tutorials/laboratory works/projects/practical work			50%
	Assignments			%
Final assessment	Final assessment form[11]	Colloquium	Week 14	50%
	Examination procedures and conditions: 1. ; Subject development ; written ; 50 % 2. ; Subject development ; written ; 50 %			

Course organizer	Professor Bogdan Horbaniuc	

Teaching assistants	Assistant professor Marius Atanasiu	

[1]Course name from the curriculum
[2] DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)
[3] DI – imposed, DO –optional, DL – facultative (from the curriculum)
[4] Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)
[5] According to 4.1 – Pre-requisites - from the Course guide – extended form
[6] According to 7.1 from the Course guide – extended form
[7] According to 7.2 from the Course guide – extended form
[8] Short description of the course, according to point 8 from the Course guide – extended form
[9] For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period
[10] A minimum grade might be imposed for some assessment stages
[11] Exam or colloquium