

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	Thermodynamics of Compressible Fluids					Course code	SET.315.DO.DS-3		
Course type ²	DS	Category ³	DO	Year of study	III	Semester	6	Number of credit points	5

Faculty	Of Mechanical Engineering	Number of teaching and learning hours ⁴						
Field	Mechanical Engineering	Total	L	T	LB	P	IS	
Specialization	Mechanical Engineering	98	28	-	14	28	28	

Pre-requisites from the curriculum ⁵	Compulsory	-
	Recommended	-

General objective ⁶	Study of the constructive principles and constructive schemes of main compressor types. The study of the thermodynamic processes that take place in the studied compressors, and of the technical and functioning characteristics of these thermal machines.
Specific objectives ⁷	<p>Course:</p> <p>1) knowledge about the main types of apparatus and machines that function on models that can be explained based on the Thermodynamics of Compressible Fluids, and the understanding of their functioning principia;</p> <p>2) acquiring the main skills (cognitive-applied and experimental) required for understanding the functioning of nozzles and diffusers;</p> <p>3) Acquiring the main knowledge about:</p> <ul style="list-style-type: none"> - functional principia of the studied apparatus; - processes that take place inside convergent and convergent-divergent nozzles. <p>Laboratory:</p> <p>The laboratory aims to explain and to verify by experimental means the functioning of some apparatus, as convergent nozzle, Venturi tube etc..</p> <p>Project:</p> <p>Calculation of the flow characteristics inside nozzles (convergent, divergent, convergent-divergent) for several working regimes.</p>
Course description ⁸	<ul style="list-style-type: none"> - compressible fluids, compressibility - convergent nozzle, convergent-divergent nozzle, divergent nozzle, geometrical diffuser - expansion, compression, heat exchange - speed of sound, shock wave, straight shock wave, Mach criteria, jets of gases

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		S14	60 % (5)
	Assignments		-	- %
Final assessment	Final assessment form ¹¹	Exam	S14	40 % (5)
	Examination procedures and conditions: knowledge tests with questions 1. subject nr. 1; tasks: to solve; working conditions: T; percent 40 %; 2. subject nr. 2; tasks: to solve; working conditions: T; percent 30 %; 3. subject nr. 3; tasks: to solve; working conditions: T; percent 30 %.			

Course organizer	ș.I.dr.ing. Vlad Mario HOMUTESCU		
Teaching assistants	ș.I.dr.ing. Vlad Mario HOMUTESCU		

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

