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

Academic year 2021-2022

Course name[1]	**Metallic materials (1)**					Course code		3SM05DS	
Course type[2]	DS	Category[3]	DI	Year of study	3	Semester	6	Number of credit points	4

Faculty	Faculty of Materials Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Materials Science	96	28	-	28	-	40

Pre-requisites from the curriculum[5]		
	Compulsory	Not applicable
	Recommended	Not applicable

General objective [6]	Use of knowledge of physical chemistry, physical metallurgy, thermodynamics of alloys for smelting a metal load in the processing unit (and outside of it), in order to obtain a melt to pour raw cast iron parts, compliant in terms of quality and economic efficiency.
Specific objectives[7]	Knowledge of cast iron grades, processing units specific to this alloy, analysis of the technological stages of charge smelting in a processing unit (and outside of it) necessary for the production of raw cast iron parts.
Course description[8]	The course is taught by modern teaching methods and contains the following chapters: 1. Introduction (6 hours): Cast iron industry: past, present and future, Cast irons: Definition. Classification criteria. Grades; 2. Metal bath processing (12 hours): Liquid phase, Smelting of cast iron in the cupola, Smelting of cast iron in units with electric heating, Control of the chemical composition of the metal bath during the smelting; 3. Cast iron modification (6 hours): Inoculation, Modification; 4. Physic-chemical and mechanical properties of cast irons (4 hours).

Assesment			Sche-dule[9]	Percentage in the final grade (minimum grade)[10]
A. Final assessment form [11]: Exam	Class tests along the semester	0%		60% (minimum 5)
	Home works	0%		
	Other activities	%		
	Examination procedures and conditions: Oral exam., 2 subjects on the ticket.	100% (minimum 5)	Session	
B. Seminar	Activity during seminar			
C. Laboratory	Acttvity during laboratory			40 % (minimum 5)
D. Project	Activity during project			

Course organizer	Lecturer PhD eng. Daniela Chicet	
Teaching assistants	Lecturer PhD eng. Daniela Chicet	

[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