

COURSE GUIDE – short form

Academic year 2017-2018

Course name	Nonferrous alloys					Course code	3SM8DS		
Course type	DS	Category	DI	Year of study	III	Semester	6	Number of credit points	4

Faculty	Materials Science and Engineering	Number of teaching and learning hours						
Field	Materials Engineering	Total	C	S	L	P	SI	
Specialization	Materials Science	96	28	-	28	-	40	

Pre-requisites from the curriculum	Compulsory	Chemistry, Physics
	Recommended	Physical metallurgy

General objective	Using criteria and evaluation methods fundamental to the identification, modeling, analysis and assessment of qualitative and quantitative phenomena, processes and theories characteristic, and to process and interpret the results of specific processes nonferrous alloys;
Specific objectives	<ul style="list-style-type: none"> - Solving problems and explaining the properties of medium complexity, the structural and industrial applications of nonferrous metals and alloys; - Acquiring knowledge of basic phenomena and processes occurring in developing nonferrous alloys;
Course description	<p>Course:</p> <p>Ch.I. Metals and non-ferrous alloys;</p> <p>Ch.II. Physico-chemical processes in the development of non-ferrous metals and alloys;</p> <p>Ch.III. Alloys refining;</p> <p>Ch.IV. Copper and its alloys;</p> <p>Ch.V. Nickel and its alloys;</p> <p>Ch.VI. Aluminum and its alloys;</p> <p>Ch.VII. Magnesium and its alloys;</p> <p>Ch.VIII. Tin, lead and their alloys;</p> <p>Ch.IX. Specific methods of obtaining, refining and casting;</p> <p>LABORATORY:</p> <ol style="list-style-type: none"> 1. Employee safety and health training; 2. Metallurgical calculation regarding the obtain of nonferrous alloys; 3. Obtaining and casting prealloys of Cu-Al; 4. Obtaining and casting of brass; 5. Obtaining and casting of tin bronzes; 6. Obtaining, modification and casting of Al-Si alloys; 7. Obtaining and casting of Al-Mg alloys; 8. Obtaining and casting alloys based on Zn; 9. Obtaining and casting Pb and Sn alloys; 10. Recoveries and ending the situation.

Assessment		Schedule	Percentage of the final grade (minimum grade)
Continuous assessment	Class tests along the semester	-	0 %
	Activity during tutorials/laboratory works/projects/practical work	Week 1 - 14	30%
	Assignments: 1	Week 1 - 14	20%
Final assessment	Final assessment form	Examination	50%
	Examination procedures and conditions: 1. Oral examination; tasks – subject 1; working conditions – oral; weight in final grade: 50%; 2. Oral examination; tasks – subject 2; working conditions – oral; weight in final grade: 50%;		

Course organizer	Professor dr.eng. Ioan CARCEA
Teaching assistants	Assistant dr.eng. Oana RUSU

