

# COURSE GUIDE – short form

Academic year 2024-2025

Course name	<b>SPECIAL METALLIC MATERIALS SCIENCE</b>					Course code		4EPI12DS-1		
Course type	DS	Category	DO	Year of study	4	Semester	7	Number of credit points	4	

Faculty	Materials Science and Engineering				Number of teaching and learning hours					
Field	Mechanical Engineering				Total	L	T	LB	P	IS
Specialization	Equipment for industrial processing				100	28		14		58

Pre-requisites from the curriculum	Compulsory	
	Recommended	

General objective	A thorough knowledge of correlations between composition, structure, properties and uses of materials in order to identify technical-economic problems achieve the right decisions for their choice for various industrial and scientific applications and for implementation of some approaches based on coherent scientific arguments regarding correct operation of parts or assemblies in service, compliance with the requirements of quality engineering.
Specific objectives	Recognition of materials using their properties and different methods of investigation. Materials selection depending on the application. Investigation of materials characteristics and properties. Developing skills for elaborating specific reports and scientific articles.
Course description	Notions on metallic materials theory. Fe-C alloys. Nonferrous metal alloys. Corrosion-resistant metallic materials. Refractory metal materials. Metallic materials resistant to low temperatures. Electrical metal materials. Semiconductors. Superconducting materials.

Assessment			Schedule	Percentage in the final grade (minimum grade)
A. Final assessment form:	Class tests along the semester	%		70% (minimum 5)
	Home works	%		
	Other activities	%		
	Examination procedures and conditions: 1. Category: theoretical; subject with open questions; conditions: oral; weight in final grade: 50%; 2. Category: theoretical; subject with open questions; conditions: oral; weight in final grade: 50%.	100% (minimum 5)	week 14	
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Activity during laboratory			30% (minimum 5)
D. Project	Activity during project			% (minimum 5)

Course organizer	Associate professor PH.D. eng. Ioan RUSU
Teaching assistants	Associate professor PH.D. eng. Ioan RUSU