

COURSE GUIDE – short form

Academic year 2021-2022

Course name ¹	THEORETICAL BASICS OF CASTING					Course code	3SM04DD		
Course type ²	DD	Category ³	DI	Year of study	III	Semester	5	Number of credit points	5

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴							
Field	Materials Engineering	Total	L	T	LB	P	IS		
Specialization	Materials Science	120	28	-	28			64	

Pre-requisites from the curriculum ⁵	Compulsory	Technical Drawing and Infographics, Physics, Metallic Materials Science and Engineering, Physical Chemistry, Thermotechnics
	Recommended	Cristalography and Mineralogy, Properties and Materials Choice 1

General objective ⁶	The formation of the ability of applying of principles and basic methods for solving well defined problems/ situations, typical for the phenomena and physico-chemical, crystallographical, thermodynamical and technological processes occuring at the casting and solidification of liquid metals and alloys in moulds in qualified assistance conditions promoting logical reasoning and applying the values of ethics of engineer profesion in resposible task execution
Specific objectives ⁷	The establishing of of knowledge relations between theoretical subjects studied and professional areas as physics, chemistry, mechanics and the technologies of obtaining and processing by casting of the alloys, focussing on the phenomenology specific to solidification in the mould.
Course description ⁸	The parameters of melting process, alloy flowing, cristallisation, solidification front, solidification directing, cristalline structure of castings, segregation phenomena, solid and gas inclusions, casting defects, alloy-mould heat exchange, contraction in cast alloys, retasure formation.

Assessment			Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
Continuous assessment	Class tests along the semester			%
	Activity during laboratory (open question)		continuous	50%
	Assignments			%
Final assessment	Final assessment form ¹¹	exam	week 14	50%
	Examination procedures and conditions: 1. Subject with closed questions; tasks: answer to closed questions; percent 50% 2. Subject with closed questions; tasks: answer to closed questions; percent 50%			

Course organizer	Assoc.Prof.Ph.D.Eng. Iulian Ionita	
Teaching assistants	Lect.Ph.D.Eng. Raluca maria Florea Assoc.Prof.Ph.D.Eng. Iulian Ionita	

¹Course 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