

COURSE GUIDE – short form

Academic year 2021 - 2022

Course name ¹	MODELLING OF PLASTIC DEFORMATION PROCESSES					Discipline code		TAIPM IA 201	
Course type ²	DA	Category ³	DI	Year of study	2	Semester	3	Number of credit points	5

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

Pre-requisites from the curriculum ⁵	Compulsory	
	Recommended	

General objective ⁶	Grounding the theoretical basis of modelling of the plastic deformation processes.
Specific objectives ⁷	Acquire the fundamentals of modelling by finite element method (FEM); Knowledge of the main areas of applying FEM in material processing.
Course description ⁸	Theoretical bases, state of stress and strain, relationship between stress and strain, mechanical principle of virtual work, field of study setting and meshing, types of finite elements and their choice, size and number of finite elements, properties definition of the finite element, interpolation functions, stiffness matrix, finite element analysis run, examination results, checking the accuracy of modelling, fields of application

Assessment		Schedule ⁹		Percentage of the final grade (minimum grade) ¹⁰
A. Final assessment form ¹¹ exam	Class tests along the semester	%	week	80 % (minimum 5)
	Home works	20 %		
	Other activities	%	week	
	Examination procedures and conditions: 1. Subject with closed questions, working conditions computer, percent 100 %; 2. -, working conditions -, percent %; 3. -, working conditions -, percent %	80 % (minimum 5)	exam period	
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Activity during laboratory			20 % (minimum 5)
D. Project	Activity during project			% (minimum 5)
Course organizer	Professor, Ph.D., Eng. Dorin LUCA			
Teaching assistants	Professor, Ph.D., Eng. Dorin LUCA			

¹Course name from the curriculum

² DF – fundamental, DD – 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