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

Academic year 2024-2025

Course name[1]	**MODELLING OF PLASTIC DEFORMATION PROCESSES**					Course 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	**125**	**28**	**-**	**28**	**-**	**69**

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: 1	20 %	week 13	
	Other activities	%	week	
	Examination procedures and conditions: Probe 1. Subject with closed questions, working conditions written, percent 100 %; Probe 2. -, working conditions -, percent %; Probe 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**			

[1]Course 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