

CURRICULUM

începând cu anul universitar 2018 - 2019

Programul de studii de licență

Domeniul fundamental

Domeniul de licență

Durata studiilor:

Forma de învățământ:

**EQUIPMENT FOR INDUSTRIAL PROCESSES
ENGINEERING**

MECHANICAL ENGINEERING

4 YEARS

FULL TIME (FT)

TRAINING OBJECTIVES AND COMPETENCES

The general objective of the training programme: to create specialists in the design and management of industrial processes, the exploitation and maintenance of the machines and equipment used in industrial processes, and suitable to work in research, design and production.

The specific objectives of the training programme: to teach knowledge and to create the abilities which are necessary for the acquisition of the following competences:

Competențe profesionale:

C1. To apply the fundamental theoretical and practical engineering knowledge in order to make calculations, demonstrations and applications, the use of software in activities in the field of Mechanical engineering.

C2. The ability to understand and assimilate the principles, theories, basic methods for calculations, demonstrations and applications characteristic of the fundamental disciplines.

C3. The ability to identify and describe the general and specific operation conditions for the machines and equipment used in industrial processes and to be able to solve any issue in regard to their selection, set up, adjustment and exploitation.

C4. The ability to check the set up and operation manner of the mining machines and equipment in order to determine their quality according to current regulations.

C5. To apply basic principles and methods of mechanical engineering to solve specific design issues of the elements, assemblies or parts of the machines, installations and equipment used in industrial processes..

C6. To create technical and economic documentation regarding the organization and management of the operations of set up, adjustment and exploitation of machines, installations and equipment that is used in various fields of industrial processes

Transversal competences:

CT1 – To apply the values and ethics of the profession of engineer and to fulfill the professional tasks responsibly under the circumstances of diminished autonomy and qualified assistance. To promote the convergent and divergent logical experiment, the practical applicability, the assessment and self-assessment in making decisions. *To fulfill the professional tasks responsibly.*

CT2 – To perform the activities and the roles characteristic of team work on different hierarchical layers. To promote initiative, dialogue, cooperation, positive attitude and respect, diversity and multiculturalism and to continuously improve the activity. *Communication and team work.*

CT3 – To self-assess the need for professional training objectively in order to integrate on the labour market and to adapt to the dynamics of its requirements and to achieve personal and professional development. The efficient use of the language abilities and the knowledge of the information and communication technology. *Awareness of the long-life training for professional development.*

Rector,

Prof. Ph.D. eng. Sorin Mihai RADU

Dean,

Assoc. Prof. Ph.D. eng. Iosif DUMITRESCU

STUDY PLAN
valid beginning with academic year 2018-2019

No.	FIRST YEAR	Courses code	Course type	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of hours per discipline			Hours for individual study	Total of hours			
				Courses				C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1			Sem.2	Class	Apl.
	C			S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Total						
1	Mathematical analysis	2MU1OF01	F	2	2							5		E1		28	28	56	69	125			
2	Chemistry	2MU1OF02	F	2		2						3		C1		28	28	56	19	75			
3	Descriptive geometry	2MU1OF03	F	1		2						3		C1		14	28	42	33	75			
4	Applied Informatics I	2MU1OF04	F	2		3						6		E1		28	42	70	80	150			
5	Materials science and engineering	2MU1OD05	D	2		2						5		E1		28	28	56	69	125			
6	Mechanics I	2MU1OD06	D	2	2							5		E1		28	28	56	69	125			
7	English language I	2MU1AX07	X		2							2		C1		0	28	28	22	50			
8	Physical education and sport I	2MU1OX08	X		2							1		A/R		0	28	28	0	28			
9	Algebra, analytical and differential geom.	2MU2OF09	F					2	2				4		E2	28	28	56	44	100			
10	Physics	2MU2OF10	F					2		2			3		C2	28	28	56	19	75			
11	Technical Drawing	2MU2OF11	F					2		2			4		C2	28	28	56	69	125			
12	Applied Informatics II	2MU2OF12	F					2		2			5		E2	28	28	56	69	125			
13	Mechanics II	2MU2OD13	D					2	1	1			5		E2	28	28	56	69	125			
14	Materials technology	2MU2OD14	D					2		2			5		E2	28	28	56	44	100			
15	Optional course 11 (foreign lang.)	2MU2AX15	X						2				3		C2	0	28	28	47	75			
16	Physical education and sport II	2MU2OX16	X						2				1		A/R	0	28	28	0	28			
TOTAL FIRST YEAR				11	8	9	0	12	7	9	0	30	30	8E+6C		322	462	784	722	1506			
												60											

Rector,

Professor eng.,Ph.D. Sorin Mihai RADU

Dean,

Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU

STUDY PLAN
valid beginning with academic year 2018-2019

No.	SECOND YEAR		Course type	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of hours per discipline			Hours for individual study	Total of hours
	Courses	Courses code		C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Total		
17	Thermotechnics and thermal machines	2MU3OD17	D	2		2						4		E3		28	28	56	44	100
18	Strength of Materials I	2MU3OD18	D	3	2							5		E3		42	28	70	55	125
19	Mechanisms	2MU3OD19	D	2		2	1					6		E3		28	42	70	80	150
20	Infographics (CAD) I	2MU3OF20	F	2		2						5		E3		28	28	56	69	125
21	Optional course OP 22	2MU4AF21	F	2	2							4		C3		28	28	56	44	100
22	History of Technology and Science	2MU3OX22	X	2	1							3		C3		28	14	42	33	75
23	Optional course 21 (foreign lang. 3)	2MU3AX23	X		2							2		C3		0	28	28	47	75
24	Physical education and sport III	2MU3OX24	X		1							1		A/R		0	14	14	0	14
25	Management	2MU3OD25	D					2	2				3		C4	28	28	56	19	75
26	Machine parts I	2MU4OD26	D					2		2			4		E4	28	28	56	44	100
27	Infographics (CAD) II	2MU4OF27	F					1		2			3		E4	14	28	42	33	75
28	Strength of Materials II	2MU4OD28	D					2	2	1			4		E4	28	42	70	30	100
29	Tolerance and dimension control	2MU4OD29	D					2		2			4		C4	28	28	56	44	100
30	Mechanical vibrations	2MU4OD30	D					2		1			3		C4	28	14	42	33	75
31	Optional course 23 (foreign lang. 3)	2MU4AX31	X						2				2		C4		28	28	47	75
32	Optional course OP 24	2MU4AX32	X					1	1				2		C4	14	14	28	22	50
33	Physical education and sport IV	2MU4OX33	X						1				1		A/R		14	14	0	14
34	Practical training, I, 30x3 hours/week	2MU4OD34	D										4		C4		90	90	0	90
TOTAL SECOND YEAR				13	8	6	1	12	8	8	0	30	30	7E+9C	350	524	874	644	1518	
												60								

Rector

Professor eng.,Ph.D. Sorin Mihai RADU

Dean,

Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU

STUDY PLAN
valid beginning with academic year 2018-2019

No.	THIRD YEAR	Courses code	Course type	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of hours per discipline			Hours for individual study	Total of hours	
				C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Total			
	Courses																				
35	Finite elements analysis	2MU5OS35	D	2		1							4		C5		28	14	42	58	100
36	Thermal treatments	2MU5OD36	S	2		2							4		C5		28	28	56	44	100
37	Fluid mechanics and hydraulic machines	2MU5OD37	D	3	1	1							5		E5		42	28	70	55	125
38	Machine parts II	2MU5OD38	D	2		2							5		E5		28	28	56	69	125
39	Machine parts - project	2MU5OD39	D				2						2		C5		0	28	28	22	50
40	Optional course OP 31	2MU5AD40	D	2		2							5		E5		28	28	56	69	125
41	Reliability and maintenance	2MU5OS41	S	2		2							5		E5		28	28	56	69	125
42	Hydraulic and pneumatic drives	2MU6OD42	D					2		1				4		E6	28	14	42	58	100
43	Hydraulic and pneumatic drives (project)	2MU6OD43	D								2			2		C6	0	28	28	22	50
44	Environmental Engineering Technologies	2MU6OS44	S					2		2				4		E6	28	28	56	44	100
45	Process machines and installations	2MU6OS45	S					3		1				4		E6	42	14	56	44	100
46	Computer Aided Design	2MU6OD46	D					3		2				5		E6	42	28	70	55	125
47	Tribology	2MU6OD47	D					2		2				4		C6	28	28	56	44	100
48	Optional course OP 32	2MU6OS48	S					2	2					3		C6	28	28	56	19	75
49	Practical training, II, 30x3 hours/week	2MU6OS49	S											4		C6	0	90	90	0	90
TOTAL THIRD YEAR				13	1	10	2	14	2	8	2	30	30	8E+7C	378	440	818	672	1490		
												60									

Rector,
Professor eng.,Ph.D. Sorin Mihai RADU

Dean,
Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU

STUDY PLAN

valid beginning with academic year 2018-2019

No.	FOURTH YEAR	Courses code	Course type	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of hours per discipline			Hours for individual study	Total of hours	
				C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Total			
	Courses																				
50	Equipment for industrial processes I	2MU7OS50	S	3		1							5		E7		42	14	56	69	125
51	Eq. for industrial processes I (project)	2MU7OS51	S				2						3		C7		0	28	28	47	75
52	Lifting and transportation equipm. I	2MU7OS52	S	3		1							5		C7		42	14	56	69	125
53	Design pf process equipment I	2MU7OS53	S	3		1							5		C7		42	14	56	69	125
54	Energ. Effic. of industrial installations	2MU7OS54	S	3		1	2						6		E7		42	42	84	66	150
55	Optional course OP 41	2MU7OS55	S	3		1	2						6		E7		42	42	84	66	150
56	Equipment for industrial processes II	2MU8OS56	S					3		2				5		E8	42	28	70	55	125
57	Lifting and transportation equipm. II	2MU8OS57	S					3		1				4		E8	42	14	56	44	100
58	Optional course OP 42	2MU8OS58	S					3		2				4		C8	42	28	70	30	100
59	Design pf process equipment II	2MU8OS59	S					3			1			4		E8	42	14	56	44	100
60	Fabrication eng. of process equipm.	2MU8OS60	S					3		1				4		C8	42	14	56	44	100
61	Practical training for elab. of grad. paper	2MU8OS61	S											5		C8		60	60	65	125
62	Elaboration of graduation paper	2MU8OS62	S								4			4		C8		56	56	69	125
TOTAL FOURTH YEAR				15	0	5	6	15	0	6	5	30	30	6E+7C		420	368	788	737	1525	
				60																	
For the pass of the diploma exam, additional 10 credits are awarded																					

Rector,

Professor eng.,Ph.D. Sorin Mihai RADU

Dean,

Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU

STUDY PLAN
valid beginning with academic year 2018-2019

Optional courses					
Nr. crt.	Courses code	Year of study	Courses		
15	OP11	I	English Language	French Language	Spanish language
23	OP21	II	English Language	French Language	Spanish language
25	OP22	II	Numerical methods		Special Mathematics
31	OP23	II	English Language	French Language	Spanish language
32	OP24	II	Ethics and academic integrity		Environment protection
40	OP31	III	Electrotechnics		Electrical engineering and machines
48	OP32	III	Quality engineering		Creativity and inventiveness
55	OP41	IV	3D modelling of mechanical structures (SolidWorks)		Mechanical design with specialised software (CATIA V5)
58	OP42	IV	Control, command and adjustment of equipment		Automation of industrial processes

Facultative courses																					
No.	Courses	Cod discip.:	Year of study	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of hours per discipline			Hours for individual study	Total of hours	
				C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Cours	Apl.	Total			
62	General economy	2MU4LX62	II					2	2					4		C4	28	28	56	44	100
63	Welding equipment and technologies	2MU5LS63	III	2		2							3		C5		28	28	56	19	75
64	Project management in industry	2MU6LS64	III					2		1			3		C5		28	14	42	33	75
65	Foreign languages 5	2MU6LX65	III						2					2		C6	0	28	28	22	50
66	Ingineria sistemelor de producție	2MU7LS66	IV	2	1								3		C7		28	14	42	33	75
67	Manipulators and robots I	2MU7LS67	IV	2		2							4		C7		28	28	56	44	100
68	Manipulators and robots I	2MU8LS68	IV					2		2				4		C8	28	28	56	44	100

Rector,

Professor eng.,Ph.D. Sorin Mihai RADU

Dean,

Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU

STUDY PLAN**valid beginning with academic year 2018-2019**

DISTRIBUTION OF HOURS BY SUBJECT GROUPS			
Total course hours :	1470		
Total hours of applications :	1794		
Total teaching hours:	3264		
Total teaching hours / Total hours (%) :	3264	/ 3264	x 100
Total hours of applications / Total hours (%) :	1794	/ 3264	x 100
Total course hours / Total hours of applications (%) :	1470	/ 1794	x 100
SUBJECTS GRUP		No. hours	No. Hours/Total hours (%)
Fundamental subjects F		602	18,44
Engineering subjects in the field D		1238	37,93
Specialized technical subjects S		1158	35,48
Complementary subjects	Physical education and sport	266	84
	Economic and humanistic subjects		154
TOTAL		3264	100,00
Required subjects		2830	86,70
Optional subjects		434	13,30
Optional subjects		336	10,29

Comments: For 1 credit point of the discipline 25 hours are granted for the didactic preparation and individual study of the student.

Caption: 2 - Faculty: Mechanical and Electrical Engineering; **B** - industrial engineering; **B** - Machine Building Technology;

F - fundamental discipline; **D** - domain discipline; **S** - specialized discipline; **X** - complementary discipline; **A** - optional discipline; **C** - class; **S** - seminar;

L - laboratory; **P** - project; **Ex.(E_{1...8})** - exam held in the semester 1...8; **Cv.(C_{1...8})** - colloquium held in the semester 1...8, A/R - PASS / FAIL.

Rector,

Professor eng.,Ph.D. Sorin Mihai RADU

Dean,

Assoc.Prof.eng.,Ph.D. Iosif DUMITRESCU