

CURRICULUM - 1st YEAR
2024-2025

UNIVERSITY				George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş							PROGRAMME OF STUDY							Machine building technology																			
FACULTY				Faculty of Engineering and Information Technologies							TITLE AWARDED							Graduate engineer																			
FIELD OF STUDY				Industrial engineering							OFFICIAL LENGHT OF THE PROGRAMME OF STUDY							4 YEARS																			
LEVEL OF QUALIFICATION				6							NUMBER OF ECTS/SECT CREDITS							60																			
No.	Educational activities Courses	Code/Type of courses		1st semester														2nd semester														Total academic year					
				1st module (hours/week)							2nd module (hours/week)							3rd module (hours/week)							4th module (hours/week)												
				Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form						
				C	S,L,P,Stg	Indiv. Std	ECTS																														
	Compulsory courses																																				
1	Mathematical analysis	TCM101	DF	4	4				5	E																							28	28	69	5	
2	Applied Informatics	TCM102	DF	4		4			3	C																							28	28	19	3	
3	Materials science and engineering I	TCM103	DD	4		2			5	E																							28	14	83	5	
4	English Language 1	TCM104	DC		4				2	C																							0	28	22	2	
5	Chemistry	TCM105	DF								4		2			5	E																28	14	83	5	
6	Descriptive Geometry	TCM106	DF								4	2				3	C																28	14	33	3	
7	Numerical Methods	TCM107	DF								2		4			4	E																14	28	58	4	
8	General Economy	TCM108	DC								4	2				3	E																28	14	33	3	
9	Physical Education I	TCM109	DC										2			1	A/R																0	14	11	1	
10	Linear algebra, analytical and differential geometry	TCM110	DF															4	4				5	E									28	28	69	5	
11	Technical drawing and infographics I	TCM111	DF															4		4			5	C									28	28	69	5	
12	Technical drawing and infographics I	TCM112	DF															4	2	2			4	E									28	28	44	4	
13	Physical Education II	TCM113	DC																	2			1	A/R									0	14	11	1	
14	Technology of Materials (1)	TCM114	DD																						4		4				5	E	28	28	69	5	
15	Materials science and engineering II	TCM115	DD																						4		2				4	E	28	14	58	4	
16	Mechanics I	TCM116	DD																						4	2	2				5	C	28	28	69	5	
17	English Language 2	TCM117	DC																							4					2	C	0	28	22	2	
TOTAL		8DF, 5DC, 4DD		12	8	6	0	0	15	2E/ 2C	14	4	8	0	0	16	3E/ 2C	12	6	8	0	60	15	2E/ 2C	12	6	8	0	0	16	2E/ 2C	350	378	822	62		
Total hours/ECTS				26							26					16		86					15		26					16		728					

- Formative categories

DF Foundamental Course

DD Technical Course

DS Specialized Course

DC Complementary Course
- Activities

c Courses

s Seminars

lp Practical exercises

p Project

**CURRICULUM 2nd YEAR
2024-2025**

UNIVERSITY			George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş								PROGRAMME OF STUDY								Machine builging technology																			
FACULTY			Faculty of Engineering and Information Technologies								TITLE AWARDED								Graduate engineer																			
FIELD OF STUDY			Industrial engineering								OFFICIAL LENGHT OF THE PROGRAMME OF STUDY								4 YEARS																			
LEVEL OF QUALIFICATION			6								NUMBER OF ECTS/SECT CREDITS								60																			
Nr.	Educational activities Courses	Code/Type of courses		1th semester												2nd semester												Total academic year										
				1th module (hours/week)						2nd module (hours/week)						3rd module (hours/week)						4th module (hours/week)																
				Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	C	S,L,P,Stg	Indiv. Std	ECTS			
	Compulsory courses																																					
1	Technical drawing and infographics II	TCM201	DF	2		4			4	C																				14	28	58	4					
2	Mechanics (2)	TCM202	DD	4	2				4	E																				28	14	58	4					
3	Mechanisms (1)	TCM203	DD	4		4			4	E																				28	28	44	4					
4	Strength of Materials (1)	TCM204	DD								4	4	2			5	E													28	42	55	5					
5	English Language 3	TCM205	DC									4				2	C													0	28	22	2					
6	Physical Education 3	TCM206	DC										2			1	A/R													0	14	11	1					
7	Basics of industrial engineering	TCM207	DD								4	2				4	C													28	14	58	4					
8	CAD Basics	TCM208	DD															2		4				4	C					14	28	58	4					
9	Strength of Materials (2)	TCM209	DD															2	4					4	E					14	28	58	4					
10	Technical Communcation (English Language)	TCM210	DC																2					1	C					0	14	11	1					
11	erances and Dimensional Control	TCM211	DD															4	2	4				4	E					28	42	30	4					
12	Physical Education 4	TCM212	DC																	2				1	A/R					0	14	11	1					
13	Ethics and academic integrity	TCM213	DC																							2				1	C	14	0	11	1			
14	Machine Elements (1)	TCM214	DD																							6		2	2		5	E	42	28	55	5		
15	Computer programming and programming languag	TCM215	DF																							4		4			4	C	28	28	44	4		
16	Practical training	TCM216	DD	90																										4	C	0	90	10	4			
	Optional courses																																					
17	Heat Engineering and Heat Engines	TCM217/ TCM218	DD	4		2			4	E																					28	14	58	4				
18	Electronics and Automation	TCM219/ TCM220	DD								2		2			3	E														14	14	47	3				
19	Fluid mechanics and hydraulic equipments	TCM221/ TCM222	DD																						4		2			3	E	28	14	33	3			
TOTAL		2DF, 5DC, 12DD		14	2	10	0	0		3E/ 1C	10	10	6	0	0		15	2E/ 3C	8	8	10	0	60		14	2E/ 3C	16	0	8	2	0		17	2E/ 3C	336	482	732	62
TOTAL HOURS/ECTS				26					16		26					15		86					14		26					17		818						

Formative categories		Activities	
DF	Foundamental Course	c	Courses
DD	Technical Course	s	Seminars
DS	Specialized Course	lp	Practical exercises
DC	Complementary Course	p	Project

**CURRICULUM 3rd YEAR
2024-2025**

UNIVERSITY				George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş								PROGRAMME OF STUDY								Machine building technology																				
FACULTY				Faculty of Engineering and Information Technologies								TITLE AWARDED								Graduate engineer																				
FIELD OF STUDY				Industrial engineering								OFFICIAL LENGHT OF THE PROGRAMME OF STUDY								4 YEARS																				
LEVEL OF QUALIFICATION				6								NUMBER OF ECTS/SECT CREDITS								60																				
No.	Educational activities Courses	Code/Type of courses		1th semester												2nd semester												Total academic year												
				1th module (hours/week)						2nd module (hours/week)						3rd module (hours/week)						4th module (hours/week)																		
				Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp					Pr	Stg	ECTS	Verif form					
				C	S,L,P,Stg	Indiv. Std	ECTS																																	
Compulsory courses																																								
1	Heat Treatments	TCM301	DD	4		2			4	E																						28	14	58	4					
2	Fundamentals of surface generation on machine to	TCM302	DD	4		2			4	C																						28	14	58	4					
3	Machine Elements (2)	TCM303	DD	4		4			4	E																						28	28	44	4					
4	Project. Machine elements II	TCM304	DD				2		1	C																						0	14	11	1					
5	Cold Pressing Technology	TCM305	DS								4		4			4	E															28	28	44	4					
6	Probability theory and mathematical statistics	TCM306	DF								4	2				3	E															28	14	33	3					
7	Industrial Design	TCM307	DD								4			2		4	C															28	14	58	4					
8	Hydro-pneumatic actuation	TCM308	DD								4	2				4	C															28	14	58	4					
9	Cold Pressing Technology	TCM309	DS															4		2	2		4	E								28	28	44	4					
10	Tehnologia construcțiilor de mașini I	TCM310	DS															4		2			4	E								28	14	58	4					
11	Machine-Building Technology (1)	TCM311	DD															4		2			3	E								28	14	33	3					
13	Scule aşchietoare	TCM313	DD															4	2	2			3	E								28	28	19	3					
12	Project. Machine manufacturing technology I	TCM312	DS																								2		1	C	0	14	11	1						
14	Machine tools	TCM314	DD																						4		4			5	E	28	28	69	5					
15	NC machine tools	TCM315	DD																						4		4			4	E	28	28	44	4					
16	On-site training	TCM316	DS	90																								4	C	0	90	10	4							
Optional courses																																								
17	Finite element method	TCM317/ TCM318	DD	2		2			2	C																						14	14	22	2					
18	Electronics and Automation	TCM319/ TCM320	DD																						4		2			2	C	28	14	8	2					
TOTAL		1DF, 12DD, 5DS		14	0	10	2	0			15	2E/ 3C	16	4	4	2	0		15	2E/ 2C	16	2	8	2	0		14	4E/ 0C	12	0	10	2	0		16	2E/ 3C	406	412	682	60
TOTAL HOURS/ECTS				26							26						15	2C	28						14		24						16	3C	818					

Formative categories		Activities	
DF	Foundamental Course	c	Courses
DD	Technical Course	s	Seminars
DS	Specialized Course	lp	Practical exercises
DC	Complementary Course	p	Project

CURRICULUM 4th YEAR 2024-2025																																			
UNIVERSITY			George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș								PROGRAMME OF STUDY								Machine builging technology																
FACULTY			Faculty of Engineering and Information Technologies								TITLE AWARDED								Graduate engineer																
FIELD OF STUDY			Industrial engineering								OFFICIAL LENGHT OF THE PROGRAMME OF STUDY								4 YEARS																
LEVEL OF QUALIFICATION			6								NUMBER OF ECTS/SECT CREDITS								60																
No.	Educational activities Courses	Code/Type of courses		1th semester												2nd semester												Total academic year							
				1th module (hours/week)						2nd module (hours/week)						3rd module (hours/week)						4th module (hours/week)													
				Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	Cours	Sem	Lp	Pr	Stg	ECTS	Verif form	C	S,L,P,Stg	Indiv. Std	ECTS
	Compulsory courses																																		
1	Technological devices 2	TCM401	DD	4		2	4		4	E																					28	42	30	4	
2	Servomechanisms, transducers, sensors	TCM402	DS	4		2			4	E																					28	14	58	4	
3	Machine Building Technology II	TCM403	DS	4	4	2			5	E																					28	42	55	5	
4	Project. Machine Building Technology II	TCM404	DS											2		3	C														0	14	61	3	
5	Quality Management	TCM405	DD								4	4				5	E														28	28	69	5	
6	Plastic and composite parts manufacturing I	TCM406	DS								4	4				5	E														28	28	69	5	
7	Risk management	TCM407	DS								4		4			4	C														28	28	44	4	
8	Ecology and environment protection	TCM408	DD															4	2				4	E							28	14	58	4	
9	Unconventional tehnologies	TCM409	DS															4		2			4	E							28	14	58	4	
10	Manufacturing technology optimization	TCM410	DS																					4	4					4	E	28	28	44	4
11	Diploma project practical training	TCM411	DS																								70	4	C	0	70	30	4		
12	Diploma project drafting	TCM412	DS																							8			4	C	0	56	44	4	
	Discipline opționale																																		
13	Functional design	TCM413/ TCM414	DS															2			4		3	E							14	28	33	3	
14	Production and operation management	TCM415/ TCM416	DS																					4	4		2		4	C	28	42	30	4	
15	Logistics	TCM417/ TCM418	DS															4	4				3	E							28	28	19	3	
TOTAL		3DD, 12DS		12	4	6	4	0	13	3E	12	8	4	2	0	17	2E/ 2C	14	6	2	4	0	14	4E/ 3C	8	8	8	2	0	16	1E/ 3C	322	476	702	60
TOTAL HOURS/ECTS				26				26				26						26				798													

Formative categories
DF Fundamental Course
DD Technical Course
DS Specialized Course
DC Complementary Course

Activities
c Courses
s Seminars
lp Practical exercises
p Project