

CURRICULUM – 1st YEAR
2024-2025

UNIVERSITY	GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF TÂRGU MUREȘ	PROGRAMME OF STUDY	AUTOMATION AND APPLIED INFORMATICS
FACULTY	FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGIES	TITLE AWARDED	GRADUATE ENGINEER
FIELD OF STUDY	SYSTEMS ENGINEERING	OFFICIAL LENGTH OF THE PROGRAMME OF STUDY	4 YEARS
LEVEL OF QUALIFICATION	6 LEVEL CNC	NUMBER OF ECTS/SECT CREDITS	60+2

No.	Educational activities	Code/Type of course	1 st Semester (14 weeks)								2 nd Semester (14 weeks)								Total academic year			
			1 st Module (7 weeks)				2 nd Module (7 weeks)				3 rd Module (7 weeks)				4 th Module (7 weeks)							
			Course	SLP	ECTS	Verif form	Curs	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	C	LP	Indiv. Std.	ECTS
	Compulsory courses																					
1	Mathematical analysis	AIA101/DF	6	6S	6	E												42	42	66	6	
2	Physics	AIA103/DF	4	4SL	5	E												28	28	69	5	
3	English Language I	AIA105/DC	-	4S	2	C												-	28	22	2	
4	Physical Education I	AIA106/DC	-	2L	1	A/R												-	14	11	1	
5	Linear algebra, analytical and differential geometry	AIA102/DF					6	4S	6	E								42	28	80	6	
6	Computer Programming and Programming languages	AIA104/DF					6	4L	6	E								42	28	80	6	
7	Electronics and Automation	AIA107/DD					4	4SL	5	E								28	28	69	5	
8	Applied Informatics	AIA110/DF									4	4L	5	E				28	28	69	5	
9	Linear Electronic Circuits	AIA112/DD									6	4L	5	E				42	28	55	5	
10	English Language II	AIA113/DC									-	4S	2	C				-	28	22	2	
11	Chemistry	AIA114/DF									2	2L	3	C				14	14	47	3	
12	Computer Aided Graphics	AIA108/DF													4	2L	4	C	28	14	58	4
13	Special Mathematics	AIA109/DF													6	4S	5	E	42	28	55	5
14	Digital Electronics	AIA111/DD													4	6SL	6	E	28	42	80	6
15	Physical Education II	AIA115/DC													-	2L	1	A/R	-	14	11	1
GENERAL TOTAL		8DF, 3DD, 4DC	10	16	14	2E, 1C, 1A/R	16	12	17	3E	12	14	15	2E,2C	14	14	16	2E,1C, 1A/R	364	392	794	62
TOTAL HOURS/CREDITS		15 compulsory	27 hours/week ; 31 ECTS								27 hours/week ; 31 ECTS								756			

Formative categories		Activities	
DF	Foundamental course	C	Courses
DD	Technical course	S	Seminars
DS	Specialized course	LP	Practical exercise
DC	Complementary course	P	Project

CURRICULUM – 2nd YEAR 2024-2025

UNIVERSITY	GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF TÂRGU MUREŞ	PROGRAMME OF STUDY	AUTOMATION AND APPLIED INFORMATICS
FACULTY	FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGIES	TITLE AWARDED	GRADUATE ENGINEER
FIELD OF STUDY	SYSTEMS ENGINEERING	OFFICIAL LENGTH OF THE PROGRAMME OF STUDY	4 YEARS
LEVEL OF QUALIFICATION	6 LEVEL CNC	NUMBER OF ECTS/SECT CREDITS	60+2

No.	Educational activities	Code/Type of course	1 st Semester (14 weeks)								2 nd Semester (14 weeks)								Total academic year			
			1 st Module (7 weeks)				2 nd Module (7 weeks)				3 rd Module (7 weeks)				4 th Module (7 weeks)							
			Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	LP	Indiv. Std.	ECTS
	Compulsory courses																					
1	Systems Theory I	AIA201/DD	4	6SL	6	E												28	42	80	6	
2	Computer architecture	AIA202/DD	4	4L	5	E												28	28	69	5	
3	Designing algorithms	AIA203/DD					4	6SL	6	E								28	42	80	6	
4	Electrical measurements, transducers	AIA204/DD					6	4SL	6	E								42	28	80	6	
5	English Language III	AIA205/DC					-	4S	2	C								-	28	22	2	
6	Physical Education III	AIA206/DC					-	2L	1	A/R								-	14	11	1	
7	Numerical Methods	AIA207/DF									6	4S	5	C				42	28	55	5	
8	Systems Theory II	AIA208/DD									4	6SL	5	E				28	42	55	5	
9	English Language IV	AIA209/DC									-	2S	1	C				-	14	11	1	
10	Ethics and academic integrity	AIA210/DC									2	-	1	C				14	-	11	1	
11	Physical Education IV	AIA211/DC									-	2L	1	A/R				-	14	11	1	
12	Automated system engineering	AIA212/DD													4	4L	5	E	28	28	69	5
13	Databases	AIA213/DD													4	4L	4	E	28	28	44	4
14	Electric machines and drive systems	AIA214/DD													4	6SL	5	E	28	42	55	5
15	Practical training	AIA215/DD									90						4	C	-	90	10	4
	Optional courses																					
16	Discrete - Event Dynamic Systems Modelling	AIA216/DD	4	4SL	5	E												28	28	69	5	
GENERAL TOTAL		1DF, 10DD, 5DC	12	14	16	3E	10	16	15	2E,1C, 1A/R	12	14	13	1E,3C, 1A/R	12	14	18	3E,1C	322	496	732	62
TOTAL HOURS/CREDITS		15 Compulsory, 1 Optional	26 hours/week; 31 ECTS								26 hours/week; 31 ECTS								818			

Formative categories		Activities	
DF	Foundamental course	C	Courses
DD	Technical course	S	Seminars
DS	Specialized course	LP	Practical exercise
DC	Complementary course	P	Project

CURRICULUM – 3rd YEAR
2024-2025

UNIVERSITY	GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF TÂRGU MUREȘ	PROGRAMME OF STUDY	AUTOMATION AND APPLIED INFORMATICS
FACULTY	FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGIES	TITLE AWARDED	GRADUATE ENGINEER
FIELD OF STUDY	SYSTEMS ENGINEERING	OFFICIAL LENGTH OF THE PROGRAMME OF STUDY	4 YEARS
LEVEL OF QUALIFICATION	6 LEVEL CNC	NUMBER OF ECTS/SECT CREDITS	60

No.	Educational activities	Code/Type of course	1 st Semester (14 weeks)								2 nd Semester (14 weeks)								Total academic year			
			1 st Module (7 weeks)				2 nd Module (7 weeks)				3 rd Module (7 weeks)				4 th Module (7 weeks)							
			Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	LP	Indiv. Std.	ECTS
	Compulsory courses																					
1	WEB technologies	AIA301/DD	4	4L	4	E												28	28	44	4	
2	Modeling, Identification and Simulation I	AIA302/DD	6	4L	5	E												42	28	55	5	
3	Automata and Microprogramming	AIA303/DD					6	4L	6	C								42	28	80	6	
4	Operating systems	AIA304/DS					6	4L	6	E								42	28	80	6	
5	Optimizations Techniques	AIA305/DD					4	2L	4	C								28	14	58	4	
6	Design with Microprocessors	AIA306/DD									4	6LP	4	E				28	42	44	4	
7	Modeling, Identification and Simulation II	AIA307/DD									4	4LP	4	E				28	28	30	4	
8	Computer networks	AIA308/DD													4	4L	4	E	28	28	44	4
9	Robotics	AIA309/DD													4	4L	4	C	28	28	44	4
10	Automatic systems	AIA310/DD													4	4L	4	E	28	28	44	4
		AIA311/DD													-	2P	2	C	-	14	36	2
11	On-site training	AIA312/DS	90														4	C	-	90	10	4
	Optional courses																					
12	Object oriented programming	AIA313/DS	4	4L	5	E												28	28	69	5	
13	Software systems engineering	AIA315/ DD									4	4L	4	E				28	28	44	4	
GENERAL TOTAL		10DD, 3DS	14	12	14	3E	16	10	16	1E,2C	12	14	12	3E	12	14	18	2E,3C	378	440	682	60
TOTAL HOURS/CREDITS		11 Compulsory, 2 Optional	26 hours/week; 30 ECTS								26 hours/week; 30 ECTS								818			

Formative categories		Activities	
DF	Foundamental course	C	Courses
DD	Technical course	S	Seminars
DS	Specialized course	LP	Practical exercise
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	AUTOMATION AND APPLIED INFORMATICS
FACULTY	FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGIES	TITLE AWARDED	GRADUATE ENGINEER
FIELD OF STUDY	SYSTEMS ENGINEERING	OFFICIAL LENGTH OF THE PROGRAMME OF STUDY	4 YEARS
LEVEL OF QUALIFICATION	6 LEVEL CNC	NUMBER OF ECTS/SECT CREDITS	60

No.	Educational activities	Code/Type of course	1 st Semester (14 weeks)								2 nd Semester (14 weeks)								Total academic year				
			1 st Module (7 weeks)				2 nd Module (7 weeks)				3 rd Module (7 weeks)				4 th Module (7 weeks)								
			Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	SLP	ECTS	Verif form	Course	LP	Indiv. Std.	ECTS	
	Compulsory courses																						
1	Artificial intelligence	AIA401/DS	6	4L	6	E												42	28	80	6		
2	Real Time Software Application Programming	AIA402/DS	4	4L	4	E												28	28	44	4		
3	Control Systems of Continuous Processes	AIA403/DS	4	4LP	5	E												28	28	69	5		
4	Adaptive and robust systems	AIA404/DS					4	4L	4	E								28	28	44	4		
		AIA405/DS					-	2P	2	C								-	14	36	2		
5	Electric and electronic automation equipment	AIA406/DS					6	4L	6	E								42	28	80	6		
6	Data transmission	AIA407/DS					4	2L	3	E								28	14	33	3		
7	Reliability and Diagnosis	AIA408/DS													4	4L	3	E	28	28	19	3	
8	SCADA - Supervisory Control and Data Acquisition	AIA409/DS									4	4L	4	C				28	28	44	4		
9	Methodology of drafting projects	AIA410/DS									4	4SP	4	C				28	28	44	4		
10	Diploma project practical training	AIA411/DS	70															4	C	-	70	30	4
11	Diploma project drafting	AIA412/DS									-	4P			-	4P	4	C	-	56	44	4	
	Optional courses																						
12	Power Electronics	AIA413/ DS													4	4L	4	C	28	28	44	4	
13	Building automation	AIA415/DS									4	4L	4	E				28	28	44	4		
14	Driving systems of robots	AIA418 /DS													4	2L	3	E	28	14	33	3	
GENERAL TOTAL		14 DS	14	12	15	3E	14	12	15	3E,1C	12	16	12	1E, 2C	12	14	18	2E,3C	364	448	688	60	
TOTAL HOURS/CREDITS		11 Compulsory/ 3 Optional	26 hours/week; 30 ECTS								27 hours/week; 30 ECTS							812					

Formative categories		Activities	
DF	Foundamental course	C	Courses
DD	Technical course	S	Seminars
DS	Specialized course	LP	Practical exercise
DC	Complementary course	P	Project