

Domain ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGIES ENGINEERING

Program Name AI AND SIGNAL PROCESSING FOR ELECTRONICS AND TELECOMM (IN ENGLISH)

Study Level RESEARCH MASTERS

CURRICULA

Valid for the Academic Year 2025-2026

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COURSE CODE AND TITLE		Year I										Methods of Assessment			Total of Hours/Discipline				ECTS/Sem		Discipline	
		SEM 1 14 weeks					SEM 2 14 weeks															
		C	S	L	P	Pr/Ce	C	S	L	P	Pr/Ce	E	C	V	Total	C	Apl	Indiv. St.	1	2	cat	type
1.00	AI Fundamentals	2	0	1	0	0							Gr	100	28	14	58	4.0		DA	DI	
2.00	Software for Signal / Image Processing and AI	1	0	2	0	0							Gr	100	14	28	58	4.0		DS	DI	
3.00	Statistical Signal Processing	2	0	1	0	0							Gr	100	28	14	58	4.0		DA	DI	
4.00	Mathematical Methods and Numerical Algorithms for Signal/Image Processing and Machine Learning	2	0	1	0	0							Gr	100	28	14	58	4.0		DA	DI	
5.00	Ethics and Academic Integrity	1	0	0	0	0							Gr	50	14	0	36	2.0		DC	DI	
6.10	Sparse Representations for Signal and Image Processing	1	0	1	0	0							Gr	100	14	14	72	4.0		DS	DO	
6.20	AI Technologies for Mobile Applications	1	0	1	0	0							Gr	100	14	14	72	4.0		DS	DO	
6.30	Virtual and Augmented Reality	1	0	1	0	0							Gr	100	14	14	72	4.0		DS	DO	
6.40	Audio Signal Compression Techniques	1	0	1	0	0							Gr	100	14	14	72	4.0		DS	DO	
7.00	Research / Practical Activity 1	0	0	0	0	13							Gr	200	0	182	18	8.0		DS	DI	
8.00	Advanced Techniques for Image and Video Processing						2	0	1	0	0		Gr	100	28	14	58	4.0		DA	DI	
9.10	Computer Vision						2	0	1	0	0		Gr	100	28	14	58	4.0		DS	DO	
9.20	Speech Analysis, Synthesis and Recognition						2	0	1	0	0		Gr	100	28	14	58	4.0		DS	DO	
10.00	Machine Learning						2	0	1	0	0		Gr	100	28	14	58	4.0		DS	DI	
11.10	Reconfigurable Architectures for Signal / Image Processing and AI						2	0	1	0	0		Gr	100	28	14	58	4.0		DS	DO	
11.20	Smart Sensor Networks and IoT						2	0	1	0	0		Gr	100	28	14	58	4.0		DS	DO	
12.00	Research Project 1						0	0	0	2	0		Gr	100	0	28	72	4.0		DS	DI	
13.00	Research / Practical Activity 2						0	0	0	0	14		Gr	250	0	196	54	10.0		DS	DI	
TOTAL AN		9	0	6	0	13	8	0	4	2	14	sem1	5	1	1	1500	238	546	716	30.0	30.0	
					15.00					14.00		sem2	4	1	1							

201.00 Psychopedagogy of Adolescents, Youngs and Adults	2	1	0	0	0							Gr	125	28	14	83	5.0	DC	DFac
301.00 Volunteering 1	0	1	0	0	0							A/R	50	0	14	36	2.0	DC	DFac
202.00 Design and Management of Educational Programs						2	1	0	0	0		Gr	125	28	14	83	5.0	DC	DFac

Rector,
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Dean,
Prof. dr. ing. Ovidiu Aurel Pop

Department Director,
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	SEM 1 14 weeks					SEM 2 14 weeks																
	C	S	L	P	Pr/Ce	C	S	L	P	Pr/Ce	E	C	V	Total	C	Apl	Indiv. St.	1	2	cat	type	
203.10 Educational Communication						1	2	0	0	0	Gr			125	14	28	83	5.0		DC	DFac	
203.20 Educational Research Methodology						1	2	0	0	0	Gr			125	14	28	83	5.0		DC	DFac	
203.30 Modern Trends in Assessment Theory and Practice						1	2	0	0	0	Gr			125	14	28	83	5.0		DC	DFac	
302.00 Volunteering 2						0	1	0	0	0	A/R			50	0	14	36	2.0		DC	DFac	
TOTAL AN	2	2	0	0	0	3	4	0	0	0	sem1	1	0	1	475	70	84	321	7.0	12.0		
											sem2	2	0	1								

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COURSE CODE AND TITLE	Year II										Methods of Assessment	Nr. of Hours/Discipline				ECTS/Sem		Discipline				
	SEM 1 14 weeks					SEM 2 14 weeks						E	C	V	Total	C	Apl	Indiv. St.	1	2	cat	type
	C	S	L	P	Pr/Ce	C	S	L	P	Pr/Ce												
14.00 AI-Based Cybersecurity	1	0	2	0	0						Gr	100	14	28	58	4.0		DA	DI			
15.00 Bioinformatics	1	0	2	0	0						Gr	100	14	28	58	4.0		DS	DI			
16.00 Neural Networks and Deep Learning	2	0	1	0	0						Gr	100	28	14	58	4.0		DS	DI			
17.00 Data Mining	1	0	2	0	0						Gr	100	14	28	58	4.0		DS	DI			
18.10 Coding and Compression for Images and Video Sequences	1	0	1	0	0						Gr	100	14	14	72	4.0		DA	DO			
18.20 Traffic Prediction in Telecom Networks Using AI	1	0	1	0	0						Gr	100	14	14	72	4.0		DA	DO			
18.30 Cognitive Communications	1	0	1	0	0						Gr	100	14	14	72	4.0		DA	DO			
18.40 Natural Language Processing	1	0	1	0	0						Gr	100	14	14	72	4.0		DA	DO			
19.00 Research / Practical Activity 3	0	0	0	0	14						Gr	250	0	196	54	10.0		DS	DI			
20.00 Research / Practical Activity 4						0	0	0	0	14	Gr	250	0	196	54	10.0		DS	DI			
21.00 Dissertation Project Work						0	0	0	9	0	Gr	250	0	126	124	10.0		DS	DI			
22.00 Field Specific Research for the Master Thesis						0	0	0	0	5	Gr	250	0	70	180	10.0		DS	DI			
23.00 Presentation of Dissertation						0	0	0	0	0	Gr	0	0	0	0	10.0		DS	DI			
TOTAL AN	6	0	8	0	14	0	0	0	9	14	sem1 sem2	5 0	1 3	0 0	1500	84	700	716	30.0 + 10	30.0		
100.00 Introduction to Quantum Information	2	0	2	0	0						Gr	75	28	28	19	3.0		DA	DFac			
204.00 Didactics of the Field and Developments in Didactics Specialties (High School and Post High School Education)	2	1	0	0	0						Gr	125	28	14	83	5.0		DC	DFac			
205.10 School Organization Management	1	2	0	0	0						Gr	125	14	28	83	5.0		DC	DFac			
205.20 Metacognitive Education	1	2	0	0	0						Gr	125	14	28	83	5.0		DC	DFac			
205.30 Intercultural Education	1	2	0	0	0						Gr	125	14	28	83	5.0		DC	DFac			
303.00 Volunteering 3	0	1	0	0	0						A/R	50	0	14	36	2.0		DC	DFac			
206.00 Teaching Practice (in Secondary School and Tertiary Education)						0	0	0	0	3	Gr	125	0	42	83	5.0		DC	DFac			

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207.00 Graduation Exam - Level II		0	0	0	0	0	Gr	0	0	0	0	5.0	DC	DFac
304.00 Volunteering 4		0	1	0	0	0	A/R	50	0	14	36	2.0	DC	DFac
TOTAL AN	5 4 2 0 11.00	0	0	1	0	0	3 sem1 2 1 1 sem2 0 1 1	550	70	140	340	15.0 7.0 + 5		

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	C	S	L	P	Pr/Ce	Credite	Examene	Colocvii si verificari	Total evaluari	Nr.examene/tot.evaluari
Anul I	238	0	140	28	378	60	9	4	13	69 %
Anul II	84	0	112	126	462	60	5	4	9	56 %
TOTAL	322	0	252	154	840	120	14	8	22	64 %

NUMAR ORE TOTAL	1568		
TOTAL ORE DIDACTICE	798		
TOTAL ORE DISCIPLINE DE APROFUNDARE	238		
TOTAL ORE DISCIPLINE DE SINTEZA	1316		
TOTAL ORE DISCIPLINE COMPLEMENTARE - TIP DC	14	1.65 %	din tot.activ.didactice oblig. max 20%
NUMAR DISCIPLINE COMPLEMENTARE - TIP DC	1		
TOTAL ORE CURS	322		
TOTAL ORE ACTIVITATI APLICATIVE	406		TOTAL ORE ACTIV.APLIC.FARA DISC.PARTIAL ASIST. 280
RAPORT CURS / ACTIV. PRACTICE	0.79	0.80-1.20	RAPORTAT LA ACTIV.APLIC.FARA DISC.PARTIAL ASIST. 1.15

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