Technical University of Cluj-Napoca
Faculty of Automation and Computer Science
Domain: SYSTEMS ENGINEERING
Program name: CYBER PHYSICAL SYSTEMS
Study level: RESEARCH MASTERS

CURRICULA

Valid for the academic year
2023 - 2024

Nr crt	Code	Course title	Year I Sem 1 (14 w) C	S	L	P	Pr	Sem 2 (14 w). C	S	L	P	Pr	Method of assessment E	C	V	Nr. of hours / Discipline Tot	C	Apl.	Ind.st	ECTS /sem 1	2	Discipline categ	type
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.00	Mathematical Foundation of Data Science	1	0	2	0	0						Gr			100	14	28	58	4		DA	DI
2	2.00	Evolutive Systems	2	0	1	0	0						Gr			100	28	14	58	4		DA	DI
3	3.00	Machine Learning	2	0	1	0	0						Gr			100	28	14	58	4		DA	DI
4	4.00	Research Methods	2	0	1	0	0						Gr			100	28	14	58	4		DA	DI
5	5.00	Project Cyber-Physical Systems 1	0	0	0	2	0							Gr		100	0	28	72	4		DS	DO
6	6.00	Research Cyber-Physical Systems 1	0	0	0	0	14								A/R	250	0	196	54	10		DS	DI
7	7.00	Big Data for Cyber-Physical Systems						2	0	1	0	0	Gr			100	28	14	58		4	DS	DI
8	8.00	Augmented Reality/Virtual Reality						1	0	2	0	0	Gr			100	14	28	58		4	DS	DI
9	9.00	Operating Systems and Networks in Cyber-Physical Systems						2	0	1	0	0	Gr			100	28	14	58		4	DA	DI
10	10.00	Cyber-Physical System's Security						2	0	1	0	0	Gr			100	28	14	58		4	DA	DI
11	11.00	Project Cyber-Physical Systems 2						0	0	0	2	0		Gr		100	0	28	72		4	DS	DO
12	12.00	Research Cyber-Physical Systems 2						0	0	0	0	14			A/R	250	0	196	54		10	DS	DI
																1500	196	588	716	30	30		
13	201.00	Psychopedagogy of Teenagers, Youth and Adults	2	1	0	0	0						Gr			125	28	14	83	5		DF	DFac
14	301.00	Volunteering 1	0	1	0	0	0								A/R	50	0	14	36	2		DC	DFac
15	202.00	Design and Management of Educational Programs						2	1	0	0	0	Gr			125	28	14	83		5	DF	DFac
16	203.10	Educational Communication						1	2	0	0	0	Gr			125	14	28	83		5	DS	DFac
17	203.20	Methodology of Education Research						1	2	0	0	0	Gr			125	14	28	83		5	DS	DFac
18	203.30	Modern Orientations in Evaluation Theory and Practice						1	2	0	0	0	Gr			125	14	28	83		5	DS	DFac
19	302.00	Volunteering 2						0	1	0	0	0			A/R	50	0	14	36		2	DC	DFac

TOTAL	7	0	5	2	14	7	0	5	2	14
	14					14				
Nr. ex/ Nr. col + Nr. ver.	4 / 1 + 1					4 / 1 +1				

Rector
Prof.dr.ing.Vasile Ţopa

Dean
Prof.dr.ing. Liviu MICLEA

Head of Department,
Prof.dr.ing. Honoriu VĂLEAN

Program Coordinator
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Nr crt	Code	Course title	Year II Sem 1 (14 w) C	S	L	P	Pr	Sem 2 (14 w). C	S	L	P	Pr	Method of assessment E	C	V	Nr. of hours / Discipline Tot	C	Apl.	Ind.st	ECTS /sem 1	2	Discipline categ	type
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
20	13.00	Dependability of Cyber-Physical Systems	2	0	1	0	0						Gr			100	28	14	58	4		DA	DI
21	14.00	Reinforcement Learning	2	0	1	0	0						Gr			100	28	14	58	4		DS	DI
22	15.00	Human-Robot Interactions	2	0	1	0	0						Gr			100	28	14	58	4		DA	DI
23	16.10	Emerging Control Systems for Industry 5.0	2	0	1	0	0						Gr			100	28	14	58	4		DA	DO
24	16.20	IoT for Home Automation	2	0	1	0	0						Gr			100	28	14	58	4		DA	DO
25	17.00	Ethics and Academic Integrity	1	0	0	0	0						Gr			50	14	0	36	2		DC	DI
26	18.00	Project Cyber-Physical Systems 3	0	0	0	2	0							Gr		100	0	28	72	4		DS	DO
27	19.00	Research Cyber-Physical Systems 3	0	0	0	0	13								A/R	200	0	182	18	8		DS	DI
28	20.00	Research in Practice						0	0	0	0	14			A/R	250	0	196	54		10	DS	DI
29	21.00	Field Specific Research for the Master Thesis						0	0	0	0	7			A/R	250	0	98	152		10	DS	DI
30	22.00	Master Thesis Elaboration						0	0	0	7	0			A/R	250	0	98	152		10	DS	DI
																1500	126	658	716	30	30		
31	23	Master Thesis Defense											N								10	DS	DI
													TOTAL CREDITS								130		
32	100.00	Technology Transfer and Innovation	2	0	1	0	0						Gr			125	28	14	83	5		DC	DFac
33	204.00	Didactics of the Field and Development in Didactics Specialties (High School and Post High School Education)	2	1	0	0	0						Gr			125	28	14	83	5		DS	DFac
34	205.10	School Organization Management	1	2	0	0	0						Gr			125	14	28	83	5		DC	DFac
35	205.20	Metacognitive Education	1	2	0	0	0						Gr			125	14	28	83	5		DC	DFac
36	205.30	Intercultural Education	1	2	0	0	0						Gr			125	14	28	83	5		DC	DFac
37	206.00	Teaching Practice (in High School, Undergraduate and Higher Education)	0	0	0	0	3							Gr		125	0	42	83	5		DS	DFac
38	303.00	Volunteering 3	0	1	0	0	0								A/R	50	0	14	36	2		DC	DFac
39	207.00	Graduation Exam Level II. Teaching Portfolio	0	0	0	0	0						Gr			125	0	0	125	5		DC	DFac
40	304.00	Volunteering 4	0	1	0	0	0								A/R	50	0	14	36	2		DC	DFac

TOTAL	9	0	4	2	13	0	0	0	7	14
	15					14				
Nr. ex/ Nr. col +Nr. ver.	4 / 1 +1					0 / 0 + 2				

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