

Field of study: Computer and Information Technology/ Calculatoare si tehnologia informatiei
Programme of study: CLOUD COMPUTING AND INTERNET OF THINGS/ PROCESARE CLOUD SI INTERNETUL LUCRURILOR

Form of education: with frequency
Length of study: 2 years

Fundamental domain of study (DFI): Engineering Sciences/ Stiinte ingineresti
Branch of science (RSI): System Engineering, Computer and Information Technology/ Ingineria sistemelor, calculatoare si tehnologia informatiei
Domain of study of master (DSU_M): Computer and Information Technology/ Calculatoare si tehnologia informatiei

Cod DFI	Cod RSI	Cod DSU_M	level	c1c2c3	a1a2
20	60	10	M	00x	20

CURRICULUM
Academic year 2020 - 2021
1st YEAR

	SEMESTER 1										SEMESTER 2										
1	Core 1 (choose one from positions 1-5)										Core 3 (choose one from positions 1-5)										
	M00x.20.01.*1	7	E	28	0	28	0	0	0	***	119	M00x.20.02.*1	7	E	28	0	28	0	0	***	119
2	Core 2 (choose one from positions 1-5)										Core 4 (choose one from positions 1-5)										
	M00x.20.01.*2	7	E	28	0	28	0	0	0	***	119	M00x.20.02.*2	7	E	28	0	28	0	0	***	119
3	Elective 1 (choose one from Master CI/ IT/ ML/ SE)										Elective 2 (choose one from Master CI/ IT/ ML/ SE)										
	M00x.20.01.*3	7	E	28	0	28	0	0	0	***	119	M00x.20.02.*3	7	E	28	0	28	0	0	***	119
4	Research Topics in CC and IoT										Introduction to Research										
	M00x.20.01.V4	9	D	28	0	0	0	0	168	DCAV	29	M00x.20.02.V4	7	D	28	0	0	0	140	DCAV	7
5											Academic Ethics and Integrity										
												M00x.20.02.S5	2	D	14	7	0	0	0	DS	29
6																					
7																					
total / semester	VAi:	196				VPI:	386				VAi:	217				VPI:	393				
	VA (VAi+VAp):	364				VCA (VA+VPI):	750				VA (VAi+VAp):	357				VCA (VA+VPI):	750				
	credits	30				evaluations:	3E, 1D				credits	30				evaluations:	3E, 2D				
total / week	VAi:	14				VPI:	28				VAi:	16				VPI:	28				
	VA (VAi+VAp):	26				VCA (VA+VPI):	54				VA (VAi+VAp):	26				VCA (VA+VPI):	54				
	distribution	8				0	6	0	12	(c, s, l, p, VAp)	distribution	9				1	6	0	10	(c, s, l, p, VAp)	

Academic year 2020 - 2021
2nd YEAR

	SEMESTER 3										SEMESTER 4									
1	Core 5 (choose one from positions 1-5)										Research Activity and Internship									
	M00x.20.03.*1	7	E	28	0	28	0	0	0	***	119	M00x.20.04.S1	10	C				168	DS	82
2	Core 6 (choose one from positions 1-5)										Master Thesis Development									
	M00x.20.03.*2	7	E	28	0	28	0	0	0	***	119	M00x.20.04.S2	10	C				196	DS	54
3	Elective 3 (choose one from Master CI/ IT/ ML/ SE)										Master Thesis Defense									
	M00x.20.03.*3	7	E	28	0	28	0	0	0	***	119	M00x.20.04.S3	10	E					DS	
4	Directed Thesis Research																			
	M00x.20.03.S4	9	D	0	0	0	28	168	DS	29										
5																				
6																				
7																				
total / semester	VAi:	196				VPI:	386				VAi:	0				VPI:	136			
	VA (VAi+VAp):	364				VCA (VA+VPI):	750				VA (VAi+VAp):	364				VCA (VA+VPI):	500			
	credits	30				evaluations:	3E, 1D				credits	30				evaluations:	1E, 2C			
total / week	VAi:	14				VPI:	28				VAi:	0				VPI:	10			
	VA (VAi+VAp):	26				VCA (VA+VPI):	54				VA (VAi+VAp):	26				VCA (VA+VPI):	36			
	distribution	6				0	6	2	12	(c, s, l, p, VAp)	distribution	0				0	0	0	26	(c, s, l, p, VAp)

Competences:

- Advanced knowledge of the main topics and problems in the field of cloud computing and IoT;
- Knowledge of the current technologies and abilities to select and apply them in the development of cloud computing and IoT projects;
- Combining knowledge from the area of computer and information technology, with skills to critically analyze and innovate, in order to research, design, optimize, implement and test specific methods and systems;
- Development of techniques, technologies, methods and methodologies specific to computer systems and information technology.

ELECTIVE COURSES
Academic year 2020 - 2021
1st YEAR

	SEMESTER 1										SEMESTER 2									
01	IoT and Cloud Architectures and Communication Technologies										Mobile Cloud Computing and Applications									
	7	E	28	0	28	0	0	DCAV	119	7	E	28	0	28	0	0	DA	119		
02	Algorithms and Protocols in IoT and Cloud										Advanced Embedded Systems									
	7	E	28	0	28	0	0	DCAV	119	7	E	28	0	28	0	0	DA	119		
03	Smart Sensors and Sensor Networks										Big Data in Cloud and IoT									
	7	E	28	0	28	0	0	DA	119	7	E	28	0	28	0	0	DCAV	119		
04	Hardware Acceleration Techniques for Cloud Computing										Cloud Based AI Services									
	7	E	28	0	28	0	0	DCAV	119	7	E	28	0	28	0	0	DCAV	119		
05	Cyber Physical Systems										Fault-Tolerance of IoT and Dependable Cloud Computing									
	7	E	28	0	28	0	0	DCAV	119	7	E	28	0	28	0	0	DA	119		
06																				

ELECTIVE COURSES
Academic year 2020 - 2021
2nd YEAR

	SEMESTER 3										SEMESTER 4									
01	Security and Privacy in IoT and Cloud																			
	7	E	28	0	28	0	0	DCAV	119											
02	Advanced DSP Systems																			
	7	E	28	0	28	0	0	DA	119											
03	Operating Systems for IoT																			
	7	E	28	0	28	0	0	DA	119											
04	Vehicle to X Communication																			
	7	E	28	0	28	0	0	DA	119											
05	Development of IoT Products																			
	7	E	28	0	28	0	0	DA	119											
06																				

Legenda

Title of discipline										
Code	nc	FE	c	s	l	p	VAp	CF	VPI	

Code = code of discipline
nc = no. of the subject transferable credits
FE = forma de evaluare
FE ∈ {E, D, C}
E=exam
D=distributive assessment
C=colloquy
c=no. of course hours/semester
s=no. of seminar hours
l=no. of laboratory hours
p=no. of project hours
VAp = no. of hours needed for partially assisted activities

Example										
Advanced measuring technologies										
M170.17.01.V1	8	E	28	0	28	0	49	DCAV	50	

CF=the category the discipline belongs to
CF={DA, DCAV, DS, DC}
DA - thoroughgoing study discipline
DCAV - advanced knowledge discipline
DS - synthesis discipline
DC - complementary discipline
VPI=no. of unattended hours during a 14 weeks semester plus 4 weeks of examination session
VAI- no. of hours needed for entirely assisted activities=c+s+l+p
VA - no. of hours needed for entirely assisted activities and partially assisted activities=VAI+VAp
VCA - cumulated no. of hours for all activities= VA+VPI

Notes

- The first two independent electives ("Core x") in each semester will be selected from the table "ELECTIVE COURSES", corresponding semester, and can be of the types DCAV, DA, or DS, as specified in the cell marked with ***.
- The third independent elective ("Elective y") in each semester will be selected from the the Master programs in the CTI field (Master CI/ IT/ ML/ SE), corresponding semester, and can be of the types DCAV, DA, or DS, as specified in the cell marked with ***.
- The electives in the table "ELECTIVE COURSES" will be activated based on student options, number of students and financial coverage.

RECTOR,
Conf.dr.ing. Florin DRĂGAN

DECAN,
Prof.univ.dr.ing. Marius-George MARCU