

PLAN DE ÎNVĂȚĂMÂNT

Programul de studii univ. de master:

CLOUD COMPUTING AND INTERNET OF THINGS/ PROCESARE CLOUD SI INTERNETUL LUCRURILOR

Tipul de masterat:

de cercetare

Domeniul fundamental (DFI):

Engineering Science/ Științe Inginerești

Ramura de stiinta (RSI):

System Engineering, Computer and Information Technology/ Ingineria sistemelor, calculatoare si tehnologia informatiei

Domeniul de licenta (DL):

Computer and Information Technology

Durata studiilor / Numărul de credite:

2 ani / 120 credite

Forma de învățământ:

IF - Invatamant cu frecventa

Domeniul de studii universitare de master (DSU_M):

Computer and Information Technology

RECTOR,
Conf.univ.dr.ing. Florin DRĂGAN

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

Misiunea programului de studii:

To provide students with advanced knowledge in the field of cloud computing and internet of things, familiarize them with the evolution of the current techniques, develop research abilities and prepare them for successful careers as key contributors in information technology development and research projects.

Obiectivele programului de studii:

The main objective of the Master in Cloud Computing and Internet of Things (MCI) programme is to produce highly qualified engineers at master level, with research and development abilities, in the field of Cloud Computing and Internet of Things.

Competențele programului de studii:

Competențe profesionale:

- 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.

Competențe transversale:

- Skills of communication, inter-disciplinary co-operation and team project management

Finalități:

Absolvenții programului de studii universitare de master vor accesa următoarele ocupații posibile conform Clasificării Ocupațiilor din România ISCO-08:

- 252901 - specialist SIG/ IT
- 215236 - inginer de cercetare in calculatoare
- 215235 - cercetator in calculatoare

Domeniul de licență:
Programul de studii univ. de master de cercetare:

Computer and Information Technology
CLOUD COMPUTING AND INTERNET OF THINGS/ PROCESARE CLOUD SI INTERNETUL LUCRURILOR

Forma de învățământ:
Durata studiilor:

IF - Învățământ cu frecvență
2 ani

Domeniul fundamental (DFI):
Ramura de știință (RSI):
Domeniul de studii universitare de master (DSU_M):

Engineering Science/ Științe Inginerești
System Engineering, Computer and Information Technology/ Ingineria sistemelor, calculatoare și tehnologia informației
Computer and Information Technology

Cod DFI	Cod RSI	Cod DSU_M
20	60	10

ciclul	c1c2c3	a1a2
M	4	22

PLAN DE ÎNVĂȚĂMÂNT
Pentru seria de studenți 2022-2024
ANUL I (2022-2023)

	SEMESTRUL 1											SEMESTRUL 2																																
1	Optional Core 1 (choose one from positions 1-5)											Optional Core 3 (choose one from positions 1-5)																																
	M4.22.01.*1-ij	7	E	28	0	28	0	0	0	***	119	M4.22.02.*1-ij	7	E	28	0	28	0	0	0	***	119																						
2	Optional Core 2 (choose one from positions 1-5)											Optional Core 4 (choose one from positions 1-5)																																
	M4.22.01.*2-ij	7	E	28	0	28	0	0	0	***	119	M4.22.02.*2-ij	7	E	28	0	28	0	0	0	***	119																						
3	Elective 1 (choose one from Master CI/ IT/ ML/ SE)											Elective 2 (choose one from Master CI/ IT/ ML/ SE)																																
	M4.22.01.*3	7	E	28	0	28	0	0	0	***	119	M4.22.02.*3	7	E	28	0	28	0	0	0	***	119																						
4	Research Topics in CC and IoT											Introduction to Research																																
	M4.22.01.V4	9	D	28	0	0	0	0	168	DCAV	29	M4.22.02.V4	7	D	28	0	0	0	0	140	DCAV	7																						
5												Academic Ethics and Integrity																																
												M4.22.02.C5	2	D	14	7	0	0	0	0	DC	29																						
6																																												
7																																												
8																																												
9																																												
10	disciplina facultativa											disciplina facultativa																																
	M4.22.01.10-ij	2	E									M4.22.02.10-ij																																
total / sem.	VAi:	196										VPI:	386										VAi:	217										VPI:	393									
	VA (VAi+VAp):	364										VCA (VA+VPI):	750										VA (VAi+VAp):	357										VCA (VA+VPI):	750									
	credite:	30										evaluări:	3E,1D,0C										credite:	30										evaluări:	3E,2D,0C									
total / săpt.	VAi:	14.0										VPI:	27.6										VAi:	15.5										VPI:	28.1									
	VA (VAi+VAp):	26.0										VCA (VA+VPI):	53.6										VA (VAi+VAp):	25.5										VCA (VA+VPI):	53.6									
	din care:											8.0	0.0	6.0	0.0	12.0	(c, s, l, p, VAp)	din care:											9.0	0.5	6.0	0.0	10.0	(c, s, l, p, VAp)										

Observatii:

Pentru seria de studenti 2022-2024

ANUL II (2023-2024)

SEMESTRUL 3											SEMESTRUL 4											
1	Optional Core 5 (choose one from positions 1-5)										Research Activity and Internship											
	M4.22.03.*1-ij	7	E	28	0	28	0	0	0	***	119	M4.22.04.S1	15	C					168	DS	207	
2	Optional Core 6 (choose one from positions 1-5)										Master Thesis Development											
	M4.22.03.*2-ij	7	E	28	0	28	0	0	0	***	119	M4.22.04.S2	15	C					196	DS	179	
3	Elective 3 (choose one from Master CI/ IT/ ML/ SE)										Examen de disertație/ Master Thesis Defense											
	M4.22.03.*3	7	E	28	0	28	0	0	0	***	119	M4.22.04.S3	10	E						DS		
4	Directed Thesis Research																					
	M4.22.03.S4	9	D	0	0	0	28	168	DS	29												
5																						
6																						
7																						
8																						
9																						
10	disciplina facultativa										disciplina facultativa											
	M4.22.03.10-ij	2	E									M4.22.04.10-ij										
total / sem.	VAi:	196			VPI:	386						VAi:	0			VPI:	386					
	VA (VAi+VAp):	364			VCA (VA+VPI):	750						VA (VAi+VAp):	364			VCA (VA+VPI):	750					
	credite:	30			evaluări:	3E,1D,0C						credite:	30+10*			evaluări:	1E,0D,2C					
total / săpt.	VAi:	14.0			VPI:	27.6						VAi:	0.0			VPI:	27.6					
	VA (VAi+VAp):	26.0			VCA (VA+VPI):	53.6						VA (VAi+VAp):	26.0			VCA (VA+VPI):	53.6					
	din care:	6.0	0.0	6.0	2.0	12.0	(c, s, l, p, VAp)				din care:	0.0	0.0	0.0	0.0	26.0	(c, s, l, p, VAp)					

* Credite suplimentare alocate Examenului de disertație

Observatii:

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DISCIPLINE OPTIONALE
Pentru seria de studenti 2022-2024

ANUL I (2022-2023)

	SEMESTRUL 1										SEMESTRUL 2									
01	Optional Core 1-2 IoT and Cloud Architectures and Communication Technologies										Optional Core 3-4 Mobile Cloud Computing and Applications									
	M4.22.01.*1-01	7	E	28	0	28	0	0	DCAV	119	M4.22.02.*1-01	7	E	28	0	28	0	0	DA	119
02	Optional Core 1-2 Algorithms and Protocols in IoT and Cloud										Optional Core 3-4 Advanced Embedded Systems									
	M4.22.01.*1-02	7	E	28	0	28	0	0	DCAV	119	M4.22.02.*1-02	7	E	28	0	28	0	0	DA	119
03	Optional Core 1-2 Smart Sensors and Sensor Networks										Optional Core 3-4 Big Data in Cloud and IoT									
	M4.22.01.*1-03	7	E	28	0	28	0	0	DA	119	M4.22.02.*1-03	7	E	28	0	28	0	0	DCAV	119
04	Optional Core 1-2 Hardware Acceleration Techniques for Cloud Computing										Optional Core 3-4 Cloud Based AI Services									
	M4.22.01.*1-04	7	E	28	0	28	0	0	DCAV	119	M4.22.02.*1-04	7	E	28	0	28	0	0	DCAV	119
05	Optional Core 1-2 Cyber Physical Systems										Optional Core 3-4 Fault-Tolerance of IoT and Dependable Cloud Computing									
	M4.22.01.*1-05	7	E	28	0	28	0	0	DCAV	119	M4.22.02.*1-05	7	E	28	0	28	0	0	DA	119
06	Optional Core 1-2 Data Transmission, Coding and Compression																			
	M4.22.01.*1-06	7	E	28	0	28	0	0	DCAV	119										
07																				
08																				
09																				
10																				

Observatii: (*) - discipline optionale activate in anul univ. 2020-2021

DISCIPLINE OPTIONALE
Pentru seria de studenti 2022-2024

ANUL II (2023-2024)

	SEMESTRUL 3										SEMESTRUL 4									
01	Optional Core 5-6 Security and Privacy in IoT and Cloud																			
	M4.22.03.*1-01	7	E	28	0	28	0	0	DCAV	119										
02	Optional Core 5-6 Advanced DSP Systems																			
	M4.22.03.*1-02	7	E	28	0	28	0	0	DA	119										
03	Optional Core 5-6 Operating Systems for IoT																			
	M4.22.03.*1-03	7	E	28	0	28	0	0	DA	119										
04	Optional Core 5-6 Vehicle to X Communication																			
	M4.22.03.*1-04	7	E	28	0	28	0	0	DA	119										
05	Optional Core 5-6 Development of IoT Products																			
	M4.22.03.*1-05	7	E	28	0	28	0	0	DA	119										
06																				
07																				
08																				
09																				
10																				

Observatii: (*) - discipline optionale activate în anul univ. 2020-2021

Legenda

Nume disciplina										
Cod	nc	FE	c	s	l	p	VAp	CF	VPI	

Cod = cod disciplina
nc = nr.credite transferabile
FE = forma de evaluare
FE ∈ {E, D, C}
E=examen
D=evaluare distribuita
C=colocviu
c=nr.ore curs/semestru
s=nr.ore seminar
l=nr.ore laborator
p=nr.ore proiect
VAp- volum de ore necesar activitatilor partial asistate

Exemplu

Tehnologii avansate de măsurare										
M170.17.01.V1	8	E	28	0	28	0	49	DCAV	50	

CF=categorii formative careia ii apartine disciplina
CF={DA, DCAV, DS, DC}
DA - disciplina de aprofundare
DCAV - disciplina de cunoastere avansata
DS - disciplina de sinteza
DC - disciplina complementara
VPI = volum de ore necesar pregătirii individuale pentru un semestru de 14 sapt. plus 4 sapt. de sesiune
VAi- volum de ore necesar activitatilor integral asistate=c+s+l+p
VA - volum de ore necesar activitatilor integral asistate si al celor asistate partial =VAi+Vap
VCA - volum de ore cumulat al tuturor activitatilor = VA+VPI

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DISCIPLINE FACULTATIVE
Pentru seria de studenti 2022-2024
ANUL I (2022-2023)

	SEMESTRUL 1	SEMESTRUL 2
01		
02		
03		
04		

Observatii:

DISCIPLINE FACULTATIVE
Pentru seria de studenti 2022-2024
ANUL II (2023-2024)

	SEMESTRUL 3	SEMESTRUL 4
01		
02		
03		
04		

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