CURRICULUM

ML605	No	Course ID	Course name	Num of credits	Obligatory	Optional	Theory hours	Practice hours	Prerequisite course	Semester	
Education		1 MI 605 Philosophy of Postandusts									
Total: 3 credits (Obligatory: 3 credits)	1	ML605		3	X		45	0		I, II	
CT634	Tota	.l. 2 anadita									
CT634											
CTK601											
CTK601 Mathematics for Computer science 3							13			I, II I, II	
5 CT608 Advanced Artificial Intelligence 3 X 30 30 6 CT611 Advanced Design and Analysis of Algorithms 3 X 30 30 7 CTK615 Operating Systems and System Programming 3 X 30 30 8 CTK610 Advanced computer architecture 3 X 45 0 9 CT636 Free and open source software 3 X 30 30 8 CTK610 Advanced Open source software 3 X 30 30 Total: 12 credits (Obligatory: 9 credits; Optional: 3 credits) Specialized knowledge 3 X 30 30 10 CTK612 Advanced database 3 X 30 30 11 CTK6164 Knowledge discovery and data mining 3 X 30 30 12 CTK612 High-performance computing 3 X 30 30 13 CTK612 High-performance computing 3 <t< th=""><td></td><td></td><td></td><td></td><td></td><td></td><td>30</td><td></td><td></td><td>I, II</td></t<>							30			I, II	
6 CT611 Advanced Design and Analysis of Algorithms 3 X 30 30 7 CTK615 Operating Systems and System Programming 3 X 30 30 8 CTK610 Advanced computer architecture 3 X 45 0 9 CT636 Free and open source software 3 X 30 30 Specialized knowledge 10 CTH612 Advanced database 3 X 30 30 11 CTK616 Advanced Advances Machine Learning 3 X 30 30 11 CTK612 Advanced database 3 X 30 30 11 CTK614 Advanced Machine Learning 3 X 30 30 12 CTK604 Knowledge discovery and data 3 X 30 30 13 CTK612 High-performance computing 3 X 30 30 14 CTK613 Multimedia database 3										I, II	
CTK615			Advanced Design and Analysis of		A	X				I, II	
Specialized knowledge			Operating Systems and System Programming				30	30		I, II	
Total: 12 credits (Obligatory: 9 credits; Optional: 3 credits) Specialized knowledge										I, II	
Specialized knowledge						X	30	30		I, II	
10 CTH612 Advanced database 3 X 30 30 30 11 CTK616 Advances Machine Learning 3 X 30 30 30 30 12 CTK604 Knowledge discovery and data mining 3 X 30 30 30 30 30 30				credits	5)						
11 CTK616 Advances Machine Learning 3 X 30 30 12 CTK604 Knowledge discovery and data mining 3 X 30 30 30 30 30 30											
12										I, II	
mining				3	X		30	30		I, II	
14 CTK614 Theory of Computation 3 X 30 30 15 CTK613 Multimedia database 3 X 30 30 16 CTK611 Cryptography Theory and Applications 3 X 30 30 17 CT617 Geographic Information System 3 X 30 30 18 CT624 Information retrieval 3 X 30 30 19 CT632 Social network analysis - SNA 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 Total: 18 credits (Obligatory: 9 credits; Optional: 9 credits) Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK005 Special subject on Natural Language Processing 3 X 30 30			mining		X					I, II	
15										I, II	
16 CTK611 Cryptography Theory and Applications 3 X 30 30 17 CT617 Geographic Information System 3 X 30 30 18 CT624 Information retrieval 3 X 30 30 19 CT632 Social network analysis - SNA 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 Total: 18 credits (Obligatory: 9 credits; Optional: 9 credits) Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Natural Language Processing 3 X 30 30 24 CTK006 Special subject on multimedia data processing										I, II	
Applications				3		X	30	30		I, II	
18 CT624 Information retrieval 3 X 30 30 19 CT632 Social network analysis - SNA 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on big data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27			Applications							I, II	
19 CT632 Social network analysis - SNA 3 X 30 30 20 CTK620 Parallel computing for Data mining 3 X 30 30 Total: 18 credits (Obligatory: 9 credits; Optional: 9 credits) Scientific research 3 X 0 450 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on 3 X 30 30										I, II	
20 CTK620 Parallel computing for Data mining 3 X 30 30 Total: 18 credits (Obligatory: 9 credits; Optional: 9 credits) Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on 3 X 30 30										I, II	
Total: 18 credits (Obligatory: 9 credits; Optional: 9 credits) Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on big data processing 3 X 30 30										I, II	
Scientific research 21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on 3 X 30 30			1 0		Ļ	X	30	30		I, II	
21 CTK000 Computer Science Thesis 15 X 0 450 22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on 3 X 30 30				credits	<u>) </u>						
22 CTK003 Research subject on Computer Vision and Image Processing 3 X 30 30 23 CTK004 Special subject on Visual data mining 3 X 30 30 24 CTK005 Special subject on Natural Language Processing 3 X 30 30 25 CTK006 Special subject on multimedia data processing 3 X 30 30 26 CTK007 Special subject on big data processing 3 X 30 30 27 CTK008 Special subject on 3 X 30 30				1.5	v		_	450			
Vision and Image Processing 3				13	Λ		U	450			
Mining 3 X 30 30			Vision and Image Processing	3	X		30	30		I, II	
Language Processing 3			mining	3	X		30	30		I, II	
26 CTK007 Special subject on big data processing 3 X 30 30			Language Processing	3		X	30	30		I, II	
processing 3 X 30 30	25	CTK006		3		X	30	30		I, II	
27 CTK008 Special subject on 2 V 30 30	26	CTK007		3		X	30	30		I, II	
			Special subject on Recommendation System			X	30	30		I, II	
Total: 27 credits (Obligatory: 21 credits; Optional: 6 credits)	Tota	ıl: <mark>2</mark> 7 credi	ts (Obligatory: 21 credits; Optional:	6 credi	its)						
Total 60 42 18						18					

1.1. APPENDIX 2: SAMPLE STUDY PLAN

No	Course ID	Course Name	Credits	Obligatory credits	Optional credits	Theory hours	Practical hours	Prerequisite course	Parallel course	Note
Semo	ester 1									
1	ML605	Philosophy of Postgraduate Education	3	3		45	0			
2	CT634	Research methodology	2	2		15	30			
3	CT635	Academic activities	1	1		0	30			
4	CTK601	Mathematics for Computer science	3	3		30				
5	CT608	Advanced Artificial Intelligence	3	3		30	30			
6	CT611	Advanced Design and Analysis of Algorithms	3			30	30			
7	CTK615	Operating Systems and System Programming	3		3	30	30			
8	CTK610	Advanced computer architecture	3			45	0			
9	CT636	Free and open source software	3			30	30			
Semo	ester 2			•						
1	CTH612	Advanced database	3	3		30	30			
2	CTK616	Advances Machine Learning	3	3		30	30			
3	CTK604	Knowledge discovery and data mining	3	3		30	30			
4	CTK614	Theory of Computation	3			30	30			
5	CTK611	Cryptography Theory and Applications	3		6	30	30			
6	CT617	Geographic Information System	3			30	30			
7	CT624	Information retrieval	3			30	30			

No	Course ID	Course Name	Credits	Obligatory credits	Optional credits	Theory hours	Practical hours	Prerequisite course	Parallel course	Note
Semo	ester 3									
1	CTK003	Research subject on Computer Vision and Image Processing	3	3		30	30			
2	CTK004	Special subject on Visual data mining	3	3		30	30			
3	CTK005	Special subject on Natural Language Processing	3			30	30			
4	CTK006	Special subject on multimedia data processing	3			30	30			
5	CTK007	Special subject on big data processing	3		6	30	30			
6	CTK008	Special subject on Recommendation System	3			30	30			
7	CTK612	High-performance computing	3			30	30			
8	CT632	Social network analysis - SNA	3		3	30	30			
9	CTK613	Multimedia database	3			30	30			
Seme	ester 4									
1	CTK000	Computer Science Thesis	15	15		0	450			

MAPPING POS TO ELOS

	Expected learning outcomes (Part 2.2)								
Program objectives (Part 2.1)	Knowledge (2.2.1)			Skill (2.2.2)	Level of autonomy and responsibility (2.2.3)			
	ELO1	ELO2	ELO3	ELO4	ELO5	ELO6			
PO1	X	X	X	X	X	X			
PO2		X	X	X	X	X			
PO3	X	X	X	X	X	X			

MAPPING CLOS TO ELOS

				Expected learning outcomes (Part 2.2)								
Courses			Kn	owledge (2.	2.1)	Skill	(2.2.2)	Level of autonomy and responsibility				
				ELO2	ELO3	ELO4	ELO5	(2.2.3) ELO6				
Gene	General Knowledge											
1	ML605	Philosophy of Postgraduate Education	X									
Fund	lamental Kno	owledge										
2	CT634	Research methodology			X		X	X				
3	CT635	Academic activities			X		X	X				
4	CTK601	Mathematics for Computer science		X		X	X	X				
5	CT608	Advanced Artificial Intelligence		X		X	X	X				
6	CT611	Advanced Design and Analysis of Algorithms		X		X		X				
7	CTK615	Operating Systems and System Programming		X		X		X				
8	CTK610	Advanced computer architecture		X		X		X				
9	CT636	Free and open source software		X		X		X				
Spec	Specialized Knowledge			1	1	ı						
10	CTH612	Advanced database			X	X	X	X				
11	CTK616	Advances Machine Learning			X	X	X	X				
12	CTK604	Knowledge discovery and data mining			X	X	X	X				

			Expected learning outcomes (Part 2.2)								
	Courses			owledge (2	2.2.1)	Skil	11 (2.2.2)	Level of autonomy and responsibility			
				ELO2	ELO3	ELO4	ELO5	(2.2.3) ELO6			
13	CTK612	High-performance computing			X	X	X	X			
14	CTK614	Theory of Computation			X	X	X	X			
15	CTK613	Multimedia database			X	X		X			
16	CTK611	Cryptography Theory and Applications			X	X	X	X			
17	CTK620	Parallel computing for Data mining			X	X	X	X			
18	CT617	Geographic Information System			X	X		X			
19	CT624	Information retrieval			X	X		X			
20	CT632	Social network analysis - SNA			X	X		X			
Scier	ntific Researc	h									
21	CTK000	Computer Science Thesis			X	X	X	X			
22	CTK003	Research subject on Computer Vision and Image Processing			X	X	X	X			
23	CTK004	Special subject on Visual data mining			X	X	X	X			
24	CTK005	Special subject on Natural Language Processing			X	X	X	X			
25	CTK006	Special subject on multimedia data processing			X	X	X	X			
26	CTK007	Special subject on big data processing			X	X	X	X			
27	CTK008	Special subject on Recommendation System			X	X	X	X			

MACS PROGRAMME CURRICULUM MAP

1 st \	ear	2 nd year				
1 st semester	2 nd semester	1 st semester	2 nd semester			
ML605 Philosophy of Postgraduate Education	CTH612 Advanced database	CTK003 Research subject on Computer Vision and Image Processing	СТКООО			
CT608 Advanced Artificial Intelligence	CTK616 Advances Machine Learning	CTK004 Special subject on Visual data mining	Computer Science Thesis			
CT635 Academic activities	CTK604 Knowledge discovery and data mining	Select 2 from:				
CTK601 Mathematics for Computer science	Select 2 from:	CTK005 Special subject on Natural Language Processing				
CT634 Research methodology	CTK614 Theory of Computation	CTK006 Special subject on multimedia data processing				
Select 1 from:	CTK611 Cryptography Theory and Applications	CTK007 Special subject on big data processing				
CT611 Advanced Design and Analysis of Algorithms	CT617 Geographic Information System	CTK008 Special subject on Recommendation System				
CTK615 Operating Systems and System Programming	CT624 Information retrieval	Select 1 from:				
CT636 Free and opensource software		CTK612 High-performance computing				
CTK610 Advanced computer architecture activities		CTK613 Multimedia database				
		CT632 Social network analysis - SNA				