

MSc in Computer Science Engineering (Regular training curriculum)

hours per week (lec=lecture, sem=seminar, lab=laboratory) ; requirements (r): ex=exam, m=mid-term mark; credits (cr)

					Semesters																					Prerequisite
	Code	Course Name	Weekly hours	Credit	1					2					3					4						Code
					lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr		
		Foundations of Mathematics and Natural Sciences	14	21	5	1	2		11	6	0	0		10	0	0	0		0	0	0		0			
1	NMXAM1EMNE	Applied Mathematics	4	5	3	1	0	ex	5																	
2	NMXIK1EMNE	Information- and coding theory	3	5						3	0	0	ex	5												
3	NBXRI1EMNE	System- and control theory	4	6	2	0	2	ex	6																	
4	NMXAL1EMNE	Algorithm theory	3	5						3	0	0	ex	5												
		Economics and human sciences	8	10	0	0	0		0	0	0	0		0	2	2	0		5	2	2	0		5		
5	GVXMM2EMNE	Engineering management	4	5																2	2	0	m	5		
6	GSXUG1EMNE	Business economics	4	5											2	2	0	m	5							
		Professional core curriculum	26	28	7	0	3		12	6	0	6		12	2	0	2		4	0	0	0		0		
7	NBXIB1EMNE	Safety technology of information systems	4	4						2	0	2	ex	4												
8	NIXSKGEMNE	Image processing and computer graphics	4	4						2	0	2	m	4												
9	NIXAB1EMNE	Database- and Big Data technologies	4	4						2	0	2	m	4												
10	NIXPEREMNE	Parallel programming	4	5	2	0	2	ex	5																	
11	NIXHS1EMNE	Advanced software engineering	3	3	3	0	0	m	3																	
12	NIXMI1EMNE	High Availability Embedded Systems	3	4	2	0	1	m	4																	
13	NIXCC1EMNE	Cloud computing systems	4	4											2	0	2	ex	4						10 NIXPEREMNE	
		Specialization																								
		Biomedical engineering specialization	21	25	0	0	0		0	2	0	1		4	5	0	5		11	4	0	4		10		
14	NBXBS1PMNE	Application of biostatistical methods	4	5																2	0	2	ex	5	4 NMXAL1EMNE	
15	NBXSZ1PMNE	Sensory modalities	3	4						2	0	1	m	4												
16	NBXCO1PMNE	Diagnostic medical imaging	4	4											2	0	2	ex	4						8 NIXSKGEMNE	
17	NBXEI1PMNE	IT security of health care systems	3	3											2	0	1	m	3						7 NBXIB1EMNE	
18	NBXEB1PMNE	Basics of evidence based-medicine	3	4											1	0	2	ex	4						3 NBXRI1EMNE	
19	NIXFIBPMNE	Cloud based IoT and Big Data platforms	4	5																2	0	2	ex	5	15 NBXSZ1PMNE	

		Robotics specialization	21	25	0	0	0		0	3	0	0		4	4	0	6		11	5	0	3		10		
20	NMXGI1SMNE	Machine intelligence	3	4						3	0	0	v	4												
21	NBXR1SMNE	Programming of robot systems	4	4											2	0	2	ex	4						10	NIXPEREMNE
22	NBXIK1SMNE	Kinematics and dynamics of industrial robots	4	4											2	0	2	ex	4						12	NIXMI1EMNE
23	NBXC1SMNE	Service robots. Medical robotics	2	3																2	0	0	ex	3	22	NBXIK1SMNE
24	NBXRI2SMNE	Control theory in robotics	2	3																1	0	1	m	3	3	NBXRI1EMNE
25	NMXIF1SMNE	Intelligent development tools	2	3											0	0	2	m	3						2	NBXRI1EMNE
26	NMXMT1SMNE	Modeling and design	4	4																2	0	2	m	4	20	NMXGI1SMNE
		Thesis	0	30	0	0	0		7	0	0	0		7	0	0	0		8	0	0	0		8		
27	NNDDM1EMNE	Thesis work I		7				m	7																	
28	NNDDM2EMNE	Thesis work II		7									m	7											27	NNDDM1EMNE
29	NNDDM3EMNE	Thesis work III		8														m	8						28	NNDDM2EMNE
30	NNDDM4EMNE	Thesis work IV		8																			m	8	29	NNDDM3EMNE
		Optional subjects	6	6					0					0					2					4		
31	NBVOK1EMNE	Product Development of Medical Equipment	2	2																2	0	0	m	2		
32	NBVBR1EMNE	Biologically Inspired Solutions in Robotics	2	2											2	0	0	m	2							
33	NBVDMEMNE	Digital Quantitative Microscopy	2	2																2	0	0	m	2		
34	NBVMH1EMNE	Basics of Mechatronics	2	2											2	0	0	m	2							
35	NBVRP1EMNE	Basics of Robot Programming	2	2											1	0	1	m	2							
36	NIVMB1EMNE	Mobile programming	3	4											1	0	2	m	4							
37	NIVES1EMNE	Management of Distributed Information Services	2	2																2	0	0	ex	2		
38	NIVCC1EMNE	Services in Cloud Computing	2	2																2	0	0	m	2		
39	NIVUS1EMNE	Designing and Implementing Business Services	4	4																2	0	2	ex	4		
40	NMVSM1EMNE	Simulation Methods	2	2											2	0	0	ex	2							
41	NMVMF1EMNE	Model-based Software Engineering	2	2																2	0	0	ex	2		
42	NIVIA1EMNE	IT Audit	2	2											2	0	0	ex	2							
43	NMVNU1EMNE	Numerical Analysis	2	2											2	0	0	m	2							
44	NMVLS1EMNE	Soft Computing Methods and their Applications	2	2											2	0	0	m	2							
45	NBVTM1EMNE	Telemetry Data Processing	2	2											2	0	0	m	2							
46	NBVTK1EMNE	Queuing Systems	2	2																2	0	0	ex	2		
47	NMVFR1EMNE	Fuzzy Systems in Engineering	2	2																2	0	0	ex	2		
48	NMVRA1EMNE	Recent Advances in Intelligent Systems	4	4																4	0	0	ex	4		

Number of requirements:						5					6					6					5		
Exam (ex)						3					3					3					3		
Mid-term mark (p)						2					3					3					2		
Without specialization	54	95	12	1	5		30	12	0	6		29	6	2	2		19	6	2	0		17	95
BIS specialization	75	120	12	1	5		30	14	0	7		33	11	2	7		30	10	2	4		27	120
ROB specialization	75	120	12	1	5		30	15	0	6		33	10	2	8		30	11	2	3		27	120

Subjects of final exam: Cloud computing systems and subjects of the chosen specialization