

Computer Science MSc (Cybersecurity specialization 2024)

Compulsory subjects

Code	Subject	Lecture (L)	Practice (Pr)	Labor	Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
IPM-22fRMEG	Research methodology L+Pr.	1	2	0	2	XPG	5	1		1+2+0+2			
IPM-22fASTE	Advanced Software Technology L.	2	0	0	2	E	4	2			2+0+0+2		
IPM-22fDAAE	Design and analysis of algorithms L.	2	0	0	2	E	4	2			2+0+0+2		
IPM-22fPRG	Internship						0	2-4					240 hours
IPM-24fkbIMCSG	Introductory mathematics for Cybersecurity Specialisation	0	1	0	0	PG	1	1		0+1+0+0			
IPM-24fkbIOS1EG	Introduction to Offensive Security I.	1	1	0	2	XPG	4	1		1+1+0+2			
IPM-24fkbPETEG	Privacy enhancing technologies	1	1	0	2	XE	4	1		1+1+0+2			
IPM-24fkbSKCE	Symmetric key cryptography	2	0	0	1	E	2	1	IPM-24fkbSKCG (weak), IPM-24fkbIMCSG (weak)	2+0+0+1			
IPM-24fkbSKCG	Symmetric key cryptography	0	2	0	0	PG	2	1		0+2+0+0			
IPM-24fkbIDSE	Introduction to Data Security	2	0	0	2	E	4	2			2+0+0+2		
IPM-24fkbIOS2EG	Introduction to Offensive Security II.	1	1	0	2	XPG	4	2	IPM-24fkbIOS1EG		1+1+0+2		
IPM-24fkbNSE	Network security	2	0	0	0	E	2	2			2+0+0+0		
IPM-24fkbPKCE	Public key cryptography	2	0	0	0	E	2	2	IPM-24fkbPKCG (weak)		2+0+0+0		
IPM-24fkbPKCG	Public key cryptography	0	2	0	0	PG	2	2	IPM-24fkbSKCE (strong)		0+2+0+0		
IPM-24fkbPTE	Penetration testing	2	0	0	1	E	3	3	IPM-24fkbPTG (weak)			2+0+0+1	

IPM-24fkbPTG	Penetration testing	0	2	0	1	PG	3	3	IPM-24fkbIOS1EG (weak)			0+2+0+1		
IPM-24fkbTCG	Topics in cryptography seminar	0	2	0	2	PG	4	3				0+2+0+2		
IPM-22fkbCRPE	Cryptographic protocols	2	0	0	1	E	3	3	IPM-22fkbCRPG (weak)			2+0+0+1		
IPM-22fkbCRPG	Cryptographic protocols	0	0	2	1	PG	3	3				0+0+2+1		
	Compulsory subjects credits						56				18	22	16	
	Compulsory elective subjects credits						28				12	8	8	
	Elective subjects						6	3					6+0+0	
IPM-24fTHCONS	Thesis consultation		5		10	PG	30	4						signature
	Summa credit in semester										30	30	30	30
	Summa credit						120							

Compulsory elective subjects

Code	Subject	Lecture (L)	Practice (Pr)	Labor	Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
IPM-22fkbPCMSG	Preparation course for master studies and developing learning skills.	0	3	0	0	PG	2	1		0+3+0+0			
IPM-22fkbDFISE	<i>Development of Financial IT Systems</i>	2	0	0	1	E	3	1,3	IPM-22fkbDFISG (weak)	2+0+0+1		2+0+0+1	
IPM-22fkbDFISG	<i>Development of Financial IT Systems</i>	0	0	2	1	PG	3	1,3		0+0+2+1		0+0+2+1	
IPM-24fkbIQIE	<i>Introduction to Quantum Information</i>	2	0	0	0	E	2	1,3	IPM-24fkbIQIG (weak)	2+0+0+0		2+0+0+0	
IPM-24fkbIQIG	<i>Introduction to Quantum information</i>	0	2	0	0	PG	2	1,3		0+2+0+0		0+2+0+0	
IPM-24fkbSCSE	Side-channel security	2	0	0	0	E	2	1,3	IPM-24fkbSCSG (weak)	2+0+0+0		2+0+0+0	
IPM-24fkbSCSG	Side-channel security	0	2	0	0	PG	2	1,3		0+2+0+0		0+2+0+0	
IPM-22fkbMLEG	Machine Learning	2	0	2	2	XE	6	2			2+0+2+2		
IPM-22fkbODSEG	Numerical Methods for Optimization	2	0	2	2	XPG	6	2			2+0+2+2		

IPM-22fkbSQTE	Software quality and testing	2	0	0	1	E	3	2	IPM-22fkbSQTG (weak)		2+0+0+1		
IPM-22fkbSQTG	Software quality and testing	0	0	2	1	PG	3	2			0+0+2+1		
IPM-24fkbQCRE	Quantum Cryptography	2	0	0	0	E	2	2	IPM-24fkbQCRG (weak)		2+0+0+0		
IPM-24fkbQCRG	Quantum Cyrtography	0	2	0	0	PG	2	2	IPM-24fkbIQIE		0+2+0+0		
IPM-24fkbVASG	Vulnerability analysis seminar	0	2	0	2	PG	4	2			0+2+0+2		
IPM-22fkbSCLAB1	Cyber Security Lab I.	0	0	0	4	PG	4	1,2,3		0+0+0+4	0+0+0+4	0+0+0+4	
IPM-24fkbSCLAB2	Cyber Security Lab II.	0	0	0	6	PG	4	1,2,3	IPM-22fkbSCLAB1 (weak)	0+0+0+6	0+0+0+6	0+0+0+6	
IPM-24fkbCRAE	<i>Provably secure modular design of cryptographic protocols</i>	2	0	0	0	E	2	3	IPM-24fkbCRAG (weak)			2+0+0+0	
IPM-24fkbCRAG	<i>Provably secure modular design of cryptographic protocols</i>	0	2	0	0	PG	2	3				0+2+0+0	
IPM-24fkbPQCE	<i>Post-quantum cryptography</i>	2	0	0	2	E	4	3				2+0+0+2	
IPM-24fkbSMCE	<i>Secure multiparty computation</i>	2	0	0	2	E	4	3				2+0+0+2	
IPM-24fkbZKPAE	Zero-knowledge proofs and applications	2	0	0	2	E	4	3				2+0+0+2	

I&E modul													
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IPM-22fi&EBEG	I&E Basics	2	2	0	2	XPG	6	1		2+2+0+2			
IPM-22fi&EBDL1G	Business Development Lab I.	0	2	0	2	PG	4	1		0+2+0+2			
IPM-22fi&EBDL2G	Business Development Lab II.	0	2	0	2	PG	4	2			0+2+0+2		
IPM-22fi&EIAOEEG	Innosocial aspects of the entrepreneurship	2	2	0	2	XPG	6	2			2+2+0+2		
IPM-22fi&ETSSG	Thematic Summer Schools with I&E project	1	1	0	2	XPG	4	2			1+1+0+2		
IPM-22fi&ESTEG	I&E Study	2	2	0	2	XPG	6	3				2+2+0+2	
	Summa credit in semester									30	30	30	30

	Summa credit						120						
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PG: Practice Grade E: Exam Grade XPG: Lecture+Practice with Practical Grade XE: Lecture+Practice with Exam

