

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													
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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 Cryptography	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-22fkbSCLAB2	Cyber Security Lab II.	0	0	0	4	PG	6	1,2,3	IPM-22fkbSCLAB1 (weak)	0+0+0+4	0+0+0+4	0+0+0+4	
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						

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