Computer Science MSc (Cybersecurity specialization 2026)

Clarifications regarding the curriculum

Courses marked with an asterisk (*) in the curriculum are also offered in the Computer Science BSc programme under different subject codes. The following rules apply to such courses:

• If you completed a subject during the Computer Science BSc programme and had it counted into your degree requirements (i.e. included in the 180 credits required for graduation), we will accept its completion. However, you may not register for the same course again in the MSc programme, nor may it be recognised through a credit transfer procedure.
• If such a subject is a compulsory subject in the MSc programme, it will automatically be regarded as completed for the purposes of graduation. In this case, you must take another subject from the compulsory elective subjects offered within your specialisation, in the same number of credits.
• If you completed the course during your BSc studies but did **not** have it counted in the 180 credits required for graduation (i.e. it was not listed in your graduation application either as a compulsory elective subject or as an elective subject, and it was not one of your compulsory subjects), you may transfer it to the MSc programme through a **credit transfer procedure** and have it recognised as a compulsory elective subject within your specialisation.

Preliminary Credit Assessment at Admission

Students who, during the preliminary credit assessment conducted as part of the admission process for Hungarian students or the institutional admission procedure for international students, were required by a formal decision to complete additional credits must fulfil the missing prerequisite knowledge requirements **in parallel with their Master's studies and within two semesters of admission.**
The subjects to be completed as part of this credit supplementation requirement are determined by the **Head of the Specialisation, Dr. Péter Ligeti.**
Please note that these credits (subjects) **cannot be counted towards the 120 credits required for the completion of the MSc programme.** They must be completed **in addition to the 120 credits required for the degree.**

Information Regarding Internship

In accordance with Annex 3 of Decree No. 15/2006 (IV. 3.) of the Ministry of Education, students enrolled in the Computer Science MSc programme are required to complete a six-week internship.
The internship does not carry any credits; however, its successful completion is a mandatory graduation requirement and a prerequisite for obtaining the absolutorium (pre-degree certificate).

https://www.inf.elte.hu/en/internship-bsc-msc
https://www.inf.elte.hu/en/spec-info-computer-science-msc

If a student has completed two laboratory courses with a total value of 10 credits (Cyber Security Lab I. & II.), they may apply for recognition of the internship requirement by submitting the following request in Neptun: IK - Accepting Laboratory Courses as Internship. If the request is approved, the completed laboratory courses may be recognised as mandatory internship requirement.
More details in the Essential Guide: **Accomplishing the internship with laboratory subjects in MSc in Computer Science**

Also by completing **Innovation Laboratory**, mandatory internship required may be recognised.

**Thesis consultation

https://www.inf.elte.hu/en/guidelines-thesis-final-examination-msc

Compulsory subjects

Code	Subject	Lecture (L)	Practice (Pr)	Labor	Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
ELTE-OI-AI	Start wAItless - Introduction to the use of Artificial Intelligence in Higher Education						0	1		online course			
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			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-22fERASMUS	**Erasmus mobility**						**max 24 credits**					**max 24 credits**	
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-24fkbMFCE	Mathematical foundation of cryptocurrencies	2	0	0	2	E	4	1		2+0+0+2			
IPM-24fkbIQIE	*Introduction to Quantum Information*	2	0	0	0	E	2	1,3	IPM-24fkbIQIG (weak)	2+0+0+0		2+0+0+0	
IPM-24fkbIQIG	*Introduction to Quantum information*	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-25fkbDSEG	Introduction to Data Science	2	0	2	2	XE	6	2	IPM-22fkbMLEG (weak)		2+0+2+2		
IPM-24fkbQCRE	Quantum Cryptography	2	0	0	0	E	2	2	IPM-24fkbQCRG (weak)		2+0+0+0		
IPM-24fkbQCRG	Quantum Cyrptography	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-24fkbIDSG	Introduction to Data Security	0	2	0	0	PG	2	2			0+2+0+0		
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	*Provably secure modular design of cryptographic protocols*	2	0	0	0	E	2	3	IPM-24fkbCRAG (weak)			2+0+0+0	
IPM-24fkbCRAG	*Provably secure modular design of cryptographic protocols*	0	2	0	0	PG	2	3				0+2+0+0	
IPM-24fkbPQCE	*Post-quantum cryptography*	2	0	0	2	E	4	3	IPM-24fkbSKCE			2+0+0+2	
IPM-24fkbSMCE	*Secure multiparty computation*	2	0	0	2	E	4	3	IPM-24fkbSKCE			2+0+0+2	
IPM-24fkbZKPAE	Zero-knowledge proofs and applications	2	0	0	2	E	4	3	IPM-24fkbSKCE			2+0+0+2	

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