

Curriculum table for the full-time MSc in Data Science from 2026/2027 academic year																												
						Semesters																					Prerequisite	
	Code	Course name	Responsible	weekly hours	credits	1.					2.					3.					4.						Subject name	
						lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr			
		Theoretical basic knowledge of Data Science (15-25):		15	19	3	2	2		9	3	3	2		10	0	0	0		0	0	0	0	0	0			
1.	NSXIMLEMNF	Introduction to machine learning	Dr. habil. Adrienn Dineva	4	5	1	1	2	ex	5																		
2.	NMXMM1EMNF	Mathematical methods in data science	Dr. habil. Gábor Csiszár	4	5						2	2	0	ex	5													
3.	NMXVS1EMNF	Probability Theory and Mathematical Statistics	Dr. Péter Kárász	3	4	2	1	0	ex	4																		
4.	NSXMG1EMNF	Deep learning	Dr. habil. Adrienn Dineva	4	5						1	1	2	ex	5												Introduction to machine learning	
		Practical basic knowledge of Data Science (15-25):		21	24	7	0	6		14	4	0	4		10	0	0	0		0	0	0	0	0	0			
5.	NSXPPDEMNF	Programming paradigms and data structures	Prof. Dr. Sándor Szénási	5	5	3	0	2	ex	5																		
6.	NKXFA1EMNF	Cloud Architecture and Management	Prof. Dr. Róbert Lovas	4	4	2	0	2	m	4																		
7.	NSXTS1EMLF	Natural Language Processing with Large Language Models	Dr. habil. Gábor Kertész	4	5						2	0	2	ex	5												Probability Theory and Mathematical Statistics	
8.	NBXCS1EMNF	Introduction to cyber security	Dr. Valéria Póser	4	5	2	0	2	ex	5																		
9.	NKXAV1EMNF	Data visualization and business intelligence	Dr. habil. Rita Fleiner	4	5						2	0	2	m	5													
		Special knowledge of Data Science (40-60):		35	45	2	0	2		5	3	1	4		10	8	1	6		19	4	0	4		11			
10.	NKXAB1EMNF	Databases and Big Data technologies	Dr. habil. Rita Fleiner	4	5	2	0	2	m	5																		
11.	NBXJA1EMNF	Ethical, Legal and Auditing Aspects of Artificial Intelligence	Prof. Dr. Éva Dulf	3	5											2	1	0	ex	5								
12.	NKXAF1EMNF	Data preparation and transformation	Dr. habil. Márta Angyalné Alexy	4	5						2	0	2	m	5													
13.	NKVMIAEMNF	Foundations and Efficient Operation of Modern Infrastructure	Dr. Zoltán Alwahab Dhulfiqar	4	5											2	0	2	ex	5								
14.	NKXML1EMNF	MLSecOps*	Dr. Zoltán Fried	4	5						1	1	2	m	5													
15.	NSXPU1EMNF	Predictive Business Data Modeling and Evaluation	Dr. habil. Gábor Kertész	4	5																2	0	2	ex	5		Probability Theory and Mathematical Statistics	
16.		Mandatory elective course I.		4	4											2	0	2	m	4								
17.		Mandatory elective course II.		4	5											2	0	2	ex	5								
18.		Optional elective course		4	6																2	0	2	m	6			
		Thesis work		0	30	0	0	0		0	0	0	0		0	0	0	0		10	0	0	0		20			
19.	NDDDM1EMNF	Thesis work I.	Dr. habil. Rita Fleiner		10														m	10								
20.	NDDDM2EMNF	Thesis work II.	Dr. habil. Rita Fleiner		20																			m	20		Thesis work I.	
		Criteria subject		1	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0		0			
21.	NDIPT1EMNF	Mentoring	Dr. habil. Johanna Sájevicsné Sági	1	0	0	1	0	s	0																		
		Physical education		2	2	0	1	0		1	0	1	0		1													
22.	OTTPH1EMNF	Physical Training I.	Ákos Hiervarter	1	1	0	1	0	m	1																		
23.	OTTPH2EMNF	Physical Training II.	Ákos Hiervarter	1	1						0	1	0	m	1													
		Elective courses:																										
24.	NKXMO1EMNF	Modern Operational Systems	Dr. habil. Róbert Lovas	5	5																2	0	3	ex	5			
25.	NBXPM1EMNF	Project management and business development	Dr. Anikó Almási	4	5																2	2	0	ex	5			
26.	NBXKM1EMNF	Research Methodology	Prof. Dr. György Eigner	2	4																1	0	1	m	4			
27.	NKXMM1EMNF	AI-based solutions for cyber defence	Dr. Eszter Balázsné Kail	4	5																2	0	2	ex	5			
28.	NKXNT1EMNF	Network technologies	Dr. Eszter Balázsné Kail	4	4																2	0	2	ex	4			

Number of requirements:							8					7					5					3			
Exam (ex)							4					3					3					1			
Mid-term mark (m)							3					4					2					2			
Signature (s)							1					0					0					0			
Summary:				74	120	12	4	10		29	10	5	10		31	8	1	6		29	4	0	4		31
Lecture:				34																					
Seminar:				10																					
Laboratory practice:				30																					