Obuda University
John von Neumann Faculty of Informatics

Curriculum table for the full-time MSc in Data Science from 2023/2024 academic year

						Semesters																						Prerequisite
	Code	Course name	Responsible	weekly hours	credits	1.					2.					3.					4.						
						lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr		Code
		Theoretical basic knowledge of Data Science (15-25):		**15**	**19**	**0**	**0**	**0**		**0**	**5**	**4**	**2**		**14**	**1**	**1**	**2**		**5**	**0**	**0**	**0**		**0**		
1.	**NSXIMLEMNF**	Introduction to machine learning	Dr. habil. Adrienn Dineva	4	5						1	1	2	ex	5											**5.**	NSXPPDEMNF
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						**1.**	NSXIMLEMNF
		Practical basic knowledge of Data Science (15-25):		**21**	**24**	**9**	**2**	**6**		**19**	**2**	**0**	**2**		**5**	**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.	**NKXNT1EMNF**	Network technologies	Dr. Eszter Balázsné Kail	4	4	2	0	2	ex	4																	
7.	**NBXPM1EMNF**	Project management and business development	Dr. Anikó Almási	4	5	2	2	0	m	5																	
8.	**NBXBK1EMNF**	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											**10.**	NKXAB1EMNF
		Special knowledge of Data Science (40-60):		**37**	**45**	**4**	**0**	**5**		**10**	**4**	**0**	**4**		**10**	**5**	**1**	**6**		**15**	**4**	**0**	**4**		**10**		
10.	**NKXAB1EMNF**	Databases and Big Data technologies	Dr. habil. Rita Fleiner	4	5	2	0	2	m	5																	
11.	**NKXMO1EMNF**	Modern Operational systems	Dr. habil. Róbert Lovas	5	5	2	0	3	ex	5																	
12.	**NKXAF1EMNF**	Data preparation and transformation	Dr. Eszter Balázsné Kail	4	5						2	0	2	m	5											**10.**	NKXAB1EMNF
13.	**NBXMA1EMNF**	Recent areas of artificial intelligence	Dr. habil. Gábor Csiszár	4	5											2	0	2	ex	5						**1.**	NSXIMLEMNF
14.	**NKXML1EMNF**	MLSecOps*	Dr. Alwahab Dhulfiqar Zoltán	4	5											1	1	2	m	5						**11.**	NKXMO1EMNF
15.		Mandatory elective course I.		4	5						2	0	2	m	5												
16.		Mandatory elective course II.		4	5											2	0	2	ex	5							
17.		Mandatory elective course III.		4	4																2	0	2	m	4		
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	**19.**	NDDDM1EMNF
		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 Sápi	1	0	0	1	0	s	0																	
		Physical education		**2**	**2**	**0**	**1**	**0**		**1**	**0**	**1**	**0**		**1**												
22.	**OTTPH1EMNF**	Physical education I.	Ákos Hiervarter	1	1	0	1	0	m	1																	
23.	**OTTPH2EMNF**	Physical education II.	Ákos Hiervarter	1	1						0	1	0	m	1												
		Elective courses:																									
24.	**NKXFIBEMNF**	Cloud based IoT and Big Data Platforms	Dr. habil. Róbert Lovas	4	4																2	0	2	m	4		
25.	**NBXEB1EMNF**	Basics of Evidence Based-medicine	Prof. Dr. Tamás Ferenci	3	4																1	0	2	ex	4		
26.	**NBXBS1EMNF**	Application of biostatistical methods	Prof. Dr. Tamás Ferenci	4	4																2	0	2	ex	4		
27.	**NBXKM1EMNF**	Research Methodology	Prof. Dr. György Eigner	2	4																1	0	1	m	4		
28.	**NKXMM1EMNF**	AI-based solutions for cyber defence	Dr. Eszter Balázsné Kail	4	5																2	0	2	ex	5		
29.	**NBXTS1EMNF**	Multivariate statistical methods	Prof. Dr. Tamás Ferenci	4	4																2	0	2	ex	4		
30.	**NMXSF1EMNF**	Stochastic processes and their applications	Dr. Péter Kárász	4	5																2	2	0	ex	5		

Number of requirements:							8					7					5					3	
Exam (ex)							4					3					3					0	
Mid-term mark (m)							3					4					2					3	
Signature (s)							1					0					0					0	
Summary:		**76**	**120**	13	4	11		30	11	5	8		30	6	2	8		30	4	0	4		30
Lecture:		**34**																					
Seminar:		**11**																					
Laboratory practice:		**31**																					