

## Computer Science MSc (Data Science Specialization 2022)

### Core Courses

Code	Courses	Lecture (L)		Practice (Pr)		Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
		Labor												
IPM-22fRMEG	Research methodology L+Pr.*	1	2	0	2	XPG		5	1		2+2+0+1			
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
	<b>Core course credits</b>							<b>13</b>			<b>5</b>	<b>8</b>		

### Compulsory Courses of the Specialization

Code	Courses	Lecture (L)		Practice (Pr)		Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
		Labor												
IPM-22fatDSEG	Introduction to Data Science*	2	2	0	2	XE		6	1		2+2+0+2			
IPM-22fatTAMEG	Topics in Applied Mathematics*	2	0	2	1	XPG		5	1		2+0+2+1			
IPM-22fatDSLALB1	Data Science Lab I	0	0	2	2	PG		4	2	IPM-22fatDSEG		0+0+2+2		
IPM-22fatMLEG	Machine Learning*	2	2	0	2	XE		6	2	IPM-22fatDSEG		2+2+0+2		
IPM-22fatODSEG	Numerical Methods for Optimization	2	2	0	2	XPG		6	2			2+2+0+2		
IPM-22fatDNDEG	Deep Network Development*	2	2	0	2	XE		6	1		2+2+0+2			
IPM-20fatDSLALB2	Data Science Lab II.	0	0	2	4	XPG		6	3				0+0+2+4	
IPM-22fatOSTEG	Open-source Technologies for Data Science*	2	2	0	2	XE		6	3				2+2+0+2	
IPM-22fatSMEG	Stream Mining*	2	0	2	2	XE		6	3				2+0+2+2	
	<b>Compulsory course credits</b>							<b>51</b>			<b>11</b>	<b>16</b>	<b>24</b>	
	<b>Compulsory elective courses credits</b>							<b>20</b>			<b>12</b>	<b>4</b>	<b>4</b>	
IPM-22fERASMUS	Erasmus mobility							<b>max 24 credits</b>	<b>3</b>				<b>max 24 credits</b>	
	<b>Optional course</b>							<b>6</b>	<b>1,2,3</b>		<b>2+0+0</b>	<b>2+0+0</b>	<b>2+0+0</b>	
IPM-22fTHCONS	Thesis consultation			<b>5</b>	<b>10</b>	<b>PG</b>		<b>30</b>	<b>4</b>					<b>signature</b>
	<b>Summa credit in semester</b>										<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>
	<b>Summa credit</b>							<b>120</b>						

### Compulsory elective courses

Code	Courses	Lecture (L)		Practice (Pr)		Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
		Labor												
IPM-22fatPREPG	Preparation course for master studies and developing learning skills	0	0	3	0	PG	2	1		0+0+3+0				
IPM-22fatTPE	Theory of programming	2	0	0	1	E	3	1	IPM-22fatTPG (week)	2+0+0+1				
IPM-22fatTPG	Theory of programming	0	2	0	1	PG	3	1		0+2+0+1				
IPM-22fatCISE	Complex information systems	2	0	0	1	E	3	2	IPM-22fatCISG (week)		2+0+0+1			
IPM-22fatCISG	Complex information systems	0	2	0	1	PG	3	2			0+2+0+1			
IPM-22fatDMDBE	Data models and databases*	2	0	0	1	E	3	2	IPM-22fatDMDBG (week)		2+0+0+1			
IPM-22fatDMDBG	Data models and databases*	0	2	0	1	PG	3	2			0+2+0+1			
IPM-22fatAMLEG	Advanced Deep Network Development	2	2	0	2	XE	6	3	IPM-22fatDNDEG				2+2+0+2	
IPM-22fatNSEG	Network Science*	2	0	2	2	XE	6	3					2+0+2+2	

### I&E modul

Code	Courses	Lecture (L)		Practice (Pr)		Consultation	Requirement	Credit	Semester	Subject requirement	1st Semester	2nd Semester	3rd Semester	4th Semester
		Labor												
IPM-22fi&EBEG	I&E Basics	2	0	2	2	XPG	6	1		2+0+2+2				
IPM-22fi&EBDL1G	Business Development Lab I.	0	0	2	2	PG	4	1		0+0+2+2				
IPM-22fi&EBDL2G	Business Development Lab II.	0	0	2	2	PG	4	2			0+0+2+2			
IPM-22fi&EIAOEEC	Innosocial aspects of the entrepreneurship	2	0	2	2	XPG	6	2			2+0+2+2			
IPM-22fi&ETSSG	Thematic Summer Schools with I&E project	1	0	1	2	XPG	4	2			1+0+1+2			
IPM-22fi&ESTEG	I&E Study	2	0	2	2	XPG	6	3					2+0+2+2	
	<b>Summa credit in semester</b>										<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>
	<b>Summa credit</b>						<b>120</b>							

- Az EIT-es hallgatók számára I&E modul mellett a \*-gal megjelölt tárgyak elvégzése kötelező.
- A hallgatók a Data Science Lab I. és II. teljesítésével kiváltják a szakmai gyakorlatot.
- Az EIT-s hallgatók az utolsó félévükben végzik a szakmai gyakorlatot a diplomamunka készítésével párhuzamosan

- EIT students are required to complete the Innovation&Entrepreneurship (I&E) module and required to complete all subjects indicated by asterisk (\*) in the sample curriculum of the specialization.
- Computer Science Master course students with Data Science specialization are entitled to fulfill the requirements of the internship by the completion of Data Science Lab I. and Lab II. courses
- EIT students fulfill the requirements of the internship and complete their thesis work (parallelly), in the last semester of their academic studies.

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





