

Code: I-PTA-M-N-E, Computer Science study programme

sample curriculum

2023

Core subjects

Minimum number of credits to be achieved: 63

This dual-degree master programme is jointly offered by the Eszterházy Károly Catholic University (Eger) and the Johannes Kepler University (Linz, Austria). The language of study is English. We offer two specializations: Data Science and Software Engineering. Students must choose a specialization when getting admitted at the beginning of their studies. The location of study varies, depending on the chosen specialization and the current semester:

Software Engineering specialization:

- Semester 1: EKCUC
- Semester 2: EKCUC
- Semester 3: JKU
- Semester 4: EKCUC or JKU (on demand)

Data Science specialization:

- Semester 1: EKCUC
- Semester 2: JKU
- Semester 3: JKU
- Semester 4: EKCUC or JKU (on demand)

To get the master degree from the partner university, one must complete at least 40 credits there.

The minimum duration of the internship is 6 weeks (240 hours).

Subject code	Subject title	Cr	Mode of assessment	Number of classes			Term	Type	Prerequisite
				T	P	L			
NMI_PI100K3	Principles of Programming Languages	3	Exam	2	0	0	1	Obligatory	-
NMI_PI101K3	Machine Learning: Supervised Techniques	3	Exam	2	0	0	1	Obligatory	-
NMI_PI102G2	Machine Learning: Supervised Techniques (practice)	2	Term mark	0	2	0	1	Obligatory	-
NMI_PI103G5	Software Architectures	5	Term mark	0	2	0	1	Obligatory	-
NMI_PI155G5	Machine Learning and Pattern Classification	5	Term mark	0	2	0	2	Obligatory	-

NMI_PI105K3	System Software	3	Exam	2	0	0	3	Obligatory	-
NMI_PI108G10	Thesis Seminar 1	10	Term mark	0	0	0	3	Obligatory	-
NMI_PI156G8	Internship I.	8	Term mark	0	0	0	3	Obligatory	-
NMI_PI109G20	Thesis Seminar 2	20	Term mark	0	0	0	4	Obligatory	-
NMI_PI157G5	Internship II.	5	Term mark	0	0	0	4	Obligatory	-

Free electives

Minimum number of credits to be achieved: 12

Subject code	Subject title	Cr	Mode of assessment	Number of classes			Term	Type	Prerequisite
				T	P	L			
NMI_PI146K3	Computational Logic	3	Exam	2	0	0	1	Optional	-
NMI_PI148G3	Functional Programming	3	Term mark	0	2	0	1	Optional	-
NMI_PI144K3	Practical Software Technology	3	Exam	2	0	0	2	Optional	-
NMI_PI145G3	Practical Software Technology (practice)	3	Term mark	0	2	0	2	Optional	-
NMI_PI147G3	Logic Programming	3	Term mark	0	2	0	2	Optional	-
NMI_PI149K3	Computer Algebra	3	Exam	2	0	0	3	Optional	-
NMI_PI150G2	Computer Algebra (practice)	2	Term mark	0	1	0	3	Optional	-
NMI_PI151K3	Debugging	3	Exam	2	0	0	3	Optional	-
NMI_PI152K3	Advanced Compiler Construction	3	Exam	2	0	0	4	Optional	-

According to the Code of Studies and Exams, there are two types of prerequisites:

PR: Prerequisites for registering for course units: a particular course unit can only be taken up if its prerequisite has been fulfilled in one of the former semesters.

PC: Prerequisites for completing a course: a particular course unit can only be completed if its prerequisite has been fulfilled.

Code: SZOFTVERTECH_N, Software technology specialization

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Specialization

Minimum number of credits to be achieved: 45

Subject code	Subject title	Cr	Mode of assessment	Number of classes			Term	Type	Prerequisite
				T	P	L			
NMI_PI120K3	Data Warehousing	3	Exam	2	0	0	1	Elective	-
NMI_PI121G3	Data Warehousing (practice)	3	Term mark	0	2	0	1	Elective	-
NMI_PI123G3	Network Development	3	Term mark	0	2	0	1	Elective	-
NMI_PI110G3	Seminar in Software Engineering	3	Term mark	0	2	0	1	Obligatory	-
NMI_PI111G3	Software Testing	3	Term mark	0	2	0	1	Obligatory	-
NMI_PI112G3	Web Engineering	3	Term mark	0	2	0	1	Obligatory	-
NMI_PI122K3	Cryptography	3	Exam	2	0	0	2	Elective	-
NMI_PI124G3	Security Models in Information Systems	3	Term mark	0	2	0	2	Elective	-
NMI_PI113K3	Software Processes and Tools	3	Exam	2	0	0	2	Obligatory	-
NMI_PI114G8	Project in Software Engineering	8	Term mark	0	4	0	2	Obligatory	-
NMI_PI115G3	Mobile Computing	3	Term mark	0	2	0	2	Obligatory	-
NMI_PI116G3	Integrated Information Systems	3	Term mark	0	2	0	2	Obligatory	-
NMI_PI117K3	Model-Driven Engineering	3	Exam	2	0	0	2	Obligatory	-
NMI_PI125K5	Model Checking	5	Exam	3	0	0	3	Elective	-
NMI_PI126G2	Web Usability	2	Term mark	0	1	0	3	Elective	-
NMI_PI127K3	Computer Forensics and IT Law	3	Exam	2	0	0	3	Elective	-
NMI_PI118K4	Formal Methods in Software Development	4	Exam	3	0	0	3	Obligatory	-
NMI_PI119K3	Requirements Engineering	3	Exam	2	0	0	3	Obligatory	-
NMI_PI128K4	Web Information Systems	4	Exam	3	0	0	4	Elective	-
NMI_PI129K3	Secure Code	3	Exam	2	0	0	4	Elective	-

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Code: ADATTUDOMANY_N, Data science specialization

sample curriculum

2023

Specialization

Minimum number of credits to be achieved: 45

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				T	P	L			
NMI_PI120K3	Data Warehousing	3	Exam	2	0	0	1	Elective	-
NMI_PI121G3	Data Warehousing (practice)	3	Term mark	0	2	0	1	Elective	-
NMI_PI137K3	Mathematical foundations of Graphics and Visualisation	3	Exam	2	0	0	1	Elective	-
NMI_PI130G3	Big Data Management and Processing	3	Term mark	0	2	0	1	Obligatory	-
NMI_PI131G3	Seminar in Data Science	3	Term mark	0	2	0	1	Obligatory	-
NMI_PI115G3	Mobile Computing	3	Term mark	0	2	0	2	Elective	-
NMI_PI116G3	Integrated Information Systems	3	Term mark	0	2	0	2	Elective	-
NMI_PI128K4	Web Information Systems	4	Exam	3	0	0	2	Elective	-
NMI_PI142K3	Web Search and Mining	3	Exam	2	0	0	2	Elective	-
NMI_PI158G2	Computational Data Analytics (practice)	2	Term mark	0	1	0	2	Elective	-
NMI_PI159K3	Learning from User-generated Data	3	Exam	2	0	0	2	Elective	-
NMI_PI160G1	Learning from User-generated Data (practice)	1	Term mark	0	1	0	2	Elective	-
NMI_PI132G8	Project in Data Science	8	Term mark	0	4	0	2	Obligatory	-
NMI_PI133K3	Computational Data Analytics	3	Exam	2	0	0	2	Obligatory	-
NMI_PI162K6	Statistical Principles of Data Science	6	Exam	3	0	0	2	Obligatory	-
NMI_PI112G3	Web Engineering	3	Term mark	0	2	0	3	Elective	-
NMI_PI139K3	Machine Learning: Unsupervised Techniques	3	Exam	2	0	0	3	Elective	-
NMI_PI140G2	Machine Learning: Unsupervised Techniques (partice)	2	Term mark	0	1	0	3	Elective	-
NMI_PI161G1	Visual Analytics (practice)	1	Term mark	0	1	0	3	Elective	-
NMI_PI164G1	Probabilistic Models (practice)	1	Term mark	0	1	0	3	Elective	-
NMI_PI134K3	Probabilistic Models	3	Exam	2	0	0	3	Obligatory	-
NMI_PI135K3	Visual Analytics	3	Exam	2	0	0	3	Obligatory	-
NMI_PI163K4	Information Visualization	4	Exam	3	0	0	4	Elective	-

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