English-taught MSc in Computer Science

Name of degree programme: MSc in Computer Science

Academic level of degree: Master

Qualification obtained: Computer Scientist

Duration of degree programme: 4 semesters

Necessary no. credits for degree: 120 credits

Curriculum (beginning in **Autumn** semester) *(For description of courses please click course code)*

Compulsory courses: 85 credit points

Nr.	Neptun code of course	Name of course	lessons / week	seminars / week	laboratory / week	assessment type *	credit points	semester	pre-conditions
1	GKNM_MSTA025	Data analysis	4	0	0	v	4	1	-
2	GKNM_MSTA035	Digital twins	2	4	0	v	7	1	-
3	GKNM_MSTA036	Numerical linear algebra	2	2	0	v	5	1	-
4	GKNM_MSTA038	Python programming	2	4	0	v	7	1	-
5	GKNM_MSTA088	Introduction to HPC	2	2	0	v	5	1	-
6	GKNM_MSTA089	Research methodology	0	2	0	f	2	1	-
7	GKNM_MSTA039	High performance computing	2	2	0	v	5	2	Introduction to HPC
8	GKNM_MSTA040	Machine learning	2	2	0	v	5	2	Python programming
9	GKNM_MSTA044	Numerical methods for differential equations	2	2	0	v	5	2	Digital twins and Numerical linear algebra
10	GKNM_MSTA049	Neural networks	2	2	0	v	5	3	Machine learning
11	GKNM_MSTA090	Thesis consultation 1	0	0	0	f	5	3	Research methodology
12	GKNM_MSTA094	Professional Practice	0	0	0	a	0	3	-
13	GKNM_TATA051	Cloud computing	2	2	0	f	5	3	-
14	GKNM_MSTA091	Thesis consultation 2	0	0	0	f	25	4	Thesis consultation 1

Hungarian Language (compulsory)

Nr.	Neptun code of course	Name of course	lessons / week	seminars / week	assessment type *	credit points
1	KGNB_NOKA036	Hungarian Language & Culture 1	0	3	a	0
2	KGNB_NOKA037	Hungarian Language & Culture 2	0	3	a	0

Elective courses

25 credit points should be obtained from this group of courses.

Nr.	Neptun code of course	Name of course	lessons / week	seminars / week	Laboratory / week	assessment type*	credit points	pre-conditions
1	GKNM_INTA056	Logic	2	2	0	v	5	-
2	GKNM_MSTA002	Theory of algorithms	2	2	0	v	5	-
3	GKNM_MSTA037	Nonlinear optimization	2	2	0	v	5	-
4	GKNM_MSTA041	Web technologies	2	2	0	v	5	-
5	GKNM_MSTA045	Linear Optimization	2	2	0	v	5	-
6	GKNM_MSTA047	Model order reduction	2	2	0	v	5	Numerical methods for differential equations
7	GKNM_MSTA048	Data assimilation	2	2	0	v	5	Data analysis
8	GKNM_MSTA050	Selected topics in machine learning	2	2	0	v	5	Machine learning
9	GKNM_MSTA092	Production software development	2	2	0	v	5	-
10	GKNM_TATA061	Digitalization for industry	2	2	0	v	5	-

Free optional courses

10 credit points should be obtained from this group of courses.

Nr.	Neptun code of course	Name of course	lessons / week	seminars / week	laboratory / week	assessment type *	credit points	pre-conditions
1	AJNM_JFTA005	Computational fluid dinamics in vehicle engineering	2	2	0	f	5	Numerical methods for differential equations
2	AJNM_LSTA024	Logistics	2	2	0	v	6	-
3	GKNM_AMTA011	CAE Methods	2	1	0	v	5	-
4	GKNM_AUTA011	Automatic controls	2	0	0	v	5	-
5	KGNM_NETA028	Global economics	2	0	0	v	4	-
6	KGNM_NETA054	Advanced macroeconomics	2	0	0	v	4	-
7	KGNM_VKTA003	Leadership and Organizational Communication	2	2	0	v	5	-
8	KGNM_VKTA020	Innovation and Research Communication I.	0	0	0	f	5	-
9	KGNM_VKTA021	Innovation and Research Communication II.	0	0	0	f	5	-

*** type of assessment**

f - evaluation based on student's performance and work during the semester

v - evaluation based on student's exam grade in a 5-grade system:
excellent (5) – good (4) – satisfactory (3) – passed (2) – fail (1)

Please find details of **thesis** and **final exams** on: https://math.sze.hu/en_GB/computer-science-msc

Programme supervisor: Dr Zoltán Horváth

Link to the supervisor's CV: https://admissions.sze.hu/images/cv/CV%20-%20Zolta%CC%81n%20Horva%CC%81th.pdf

Information about **admission procedure**: http://admissions.sze.hu/