

For all the courses it is required to take the lecture and the seminar/labcourse together. The prerequisite for the exam is to obtain the term mark first.

Name of the program: Computer Science MSc		Program Coordinator: Zoltán Fülöp		semester				credit	type of exam
course code	title and type of the course	responsible	prerequisite	0	1	2	3		
				number of contact hours					

**Mandatory mathematical and computer science studies. Minimum requirement is 23 credits.**

MMEN101E	Graph theory lecture	Hajnal, Péter		2				3	exam
MMEN101G	Graph theory practice	Hajnal, Péter		2				1	term mark
IMEN101E	Automata and Formal languages lecture	Fülöp, Zoltán		2				3	exam
IMEN101G	Automata and Formal languages practice	Fülöp, Zoltán		1				1	term mark
IMEN105E	On-line algorithms lecture	Németh, Tamás		2				3	exam
IMEN105G	On-line algorithms practice	Németh, Tamás		1				1	term mark
IMEN108E	Advanced approximate and symbolic computations lecture	Csendes, Tibor			2			3	exam
IMEN108G	Advanced approximate and symbolic computations lab	Csendes, Tibor			1			1	term mark
IMEN102E	Application of Linear programming lecture	Blázsik, Zoltán		2				3	exam
IMEN102G	Application of Linear programming practice	Blázsik, Zoltán		1				1	term mark

**Elective courses (one of them is mandatory):**

IMEN111E	Mathematical foundations of logic and functional programming lecture	Iván, Szabolcs				2		3	exam
IMEN075E	Artificial neural networks and their applications	Tóth, László			2			3	exam

Sum of credits:

23

**Elective core studies in mathematics and computer science. Minimum requirement is 13 credits.**

MMEN102E	Analysis lecture	Makay, Géza			2			3	exam
MMEN102G	Analysis practice	Makay, Géza			2			2	term mark
IMEN221E	Game theory lecture	Pluhár, András					2	3	exam
IMEN221G	Game theory practice	Pluhár, András					1	1	term mark
IMEN223E	Nonlinear programming lecture	Szabó, Péter Gábor					2	3	exam
IMEN223G	Nonlinear programming lab	Szabó, Péter Gábor					1	1	term mark
IMEN210E	Data mining lecture	Farkas, Richárd				2		3	exam
IMEN210G	Data mining practice	Farkas, Richárd				2		2	term mark
IMEN704E	Tree automata lecture	Fülöp, Zoltán		2				3	exam
IMEN704G	Tree automata practice	Fülöp, Zoltán		1				1	term mark

spring

spring

Sum of credits:

22

**Mandatory computer science studies. Minimum requirement is 24 credits.**

IMEN103E	Advanced programming lecture	Ferenc, Rudolf			2			3	exam
IMEN103G	Advanced programming lab	Ferenc, Rudolf			2			2	term mark
IMEN104E	Advanced image processing lecture	Palágyi, Kálmán			2			3	exam
IMEN104G	Advanced image processing lab	Palágyi, Kálmán			1			1	term mark
IMEN106E	Machine learning lecture	Csirík, János				3		4	exam
IMEN106G	Machine learning practice	Csirík, János				1		2	term mark
IMEN107E	Advanced graphical algorithms lecture	Nagy, Antal				2		2	exam
IMEN107G	Advanced graphical algorithms lab	Nagy, Antal				1		2	term mark
IMEN109E	Program systems development lecture	Bilicki, Vilmos				2		3	exam

IMEN109G	Program systems development lab	Bilicki, Vilmos				2		2	term mark
<b>Sum of credits:</b>								<b>24</b>	

**Elective computer science studies. Minimum requirement is 24 credits.**

IMEN293E	Image registration lecture	Tanács, Attila				2		2	exam	spring
IMEN293G	Image registration lab	Tanács, Attila				1		2	term mark	
IMEN241E	Embedded systems lecture	Kiss, Ákos				2		3	exam	autumn
IMEN241G	Embedded systems lab	Kiss, Ákos				2		2	term mark	
IMEN702e	Parallel programming lecture	Kertész, Attila				2		3	exam	
IMEN702g	Parallel programming practice	Kertész, Attila				2		2	term mark	
IMEN249E	Software development lecture	Alexin, Zoltán				2		3	exam	spring
IMEN249G	Software development lab	Alexin, Zoltán				2		2	term mark	
IMEN703	Legal, Ethical and Informatics Issues of Personal Data Protection lectur	Alexin, Zoltán				2		3	exam	autumn
IMEN901E	Network Science lecture	Vinkó, Tamás				2		3	exam	autumn
IMEN298E	Computer Vision lecture	Kató, Zoltán				2		2	exam	autumn (biennially), minimum 5 students
IMEN298G	Computer Vision lab	Kató, Zoltán				1		2	term mark	
IMEN269E	Distributed Application Development lecture	Alexin, Zoltán				2		3	exam	autumn
IMEN269G	Distributed Application Development lab	Alexin, Zoltán				2		2	term mark	
IMEN001E	Special course 1. (lec+lab) lecture					2		4	exam	
IMEN001G	Special course 1. (lec+lab) lab					1		0	term mark	
IMEN002E	Special course 2. (lec+pra) lecture					2		4	exam	
IMEN002G	Special course 2. (lec+pra) gy					1		0	term mark	
IMEN003E	Special course 3. (lec) lecture					2		3	exam	
IMEN004E	Special course 4. (lec+lab2) lecture					2		5	exam	
IMEN004G	Special course 4. (lec+lab2) lab					2		0	term mark	
IMEN005E	Special course 5. (lab) lab					4		4	term mark	
<b>Sum of credits</b>								<b>54</b>		

**Thesis work. Minimum requirement is 30 credits.**

new code	Thesis work 1. practice					2		10	term mark
new code	Thesis work 2. practice		Thesis work 1.				5	20	term mark
<b>Sum of credits</b>								<b>30</b>	

**Internship**

IMEN320G	Professional practice (6 weeks)					240		0	signature
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**Free choice courses. Minimum requirement is 6 credits.**

KMENSZV00E	Elective chemistry lecture					2		2	exam
XM0011	Special course MA, MSc lecture					2		2	exam
XN0011	Language course (8x2) practice					0		0	signature
XN0141	Language course with credit practice					2		2	term mark

**Summary**

Mandatory mathematics and computer science studies	23
Elective mathematics and computer science studies	13
Mandatory informatics studies	24
Elective informatics studies	24
Free choice	6
Thesis work	30
<b>Sum of credits</b>	<b>120</b>