

Computer Science BSc

Qualification requirements:

General requirements of the diploma are regulated by The Rules and Regulations of The University of Debrecen.

Length of the program

- Number of semesters: 6.
- Total hours (total student study time): min. 5,400 hours, of which the number of teaching (contact) hours: min. 1,800.
- Number of credits required to obtain degree: 180.

	Credits
Natural Science and basic vocational training	120
Compulsory vocational subjects of choice	29
Optional natural science subjects	5
Other optional subjects	6
Thesis	20

The grade of diplom will be calculated from the final grade for the state exam and the grade of the next subjects:

- INGK302 Programming Languages 2
- INGK212 Operating Systems 2
- INGK501 Database Systems

The compulsory vocational subjects of choice are divided into five modules named A, B, C, D, S. At least one subject from each modul should be chosen and in total 29 credits from the modul subjects should be collected.

Natural science and basic vocational training subjects

Code	Subject	Credit	Hrs per week			Exam	Prere- quisites	Period	Semeste r
			L	Practice					
				S	Lab				
INGK101E INGK101G	Discrete Mathematics 1	5 0	2	2		E S	INGK101G*	1	1
INGK111E INGK111G	Calculus 1	5 0	2	2		E S	INGK111G*	1	1
INGK401E INGK401G	Logic in Computer Science	5 0	2	2		E S	INGK401G*	1	1
INGK201E INGK201L	Introduction to Informatics	5 0	2		2	E S	INGK201L*	1	1

Code	Subject	Credit	Hrs per week			Exam	Prere- quisites	Period	Semeste r
			L	Practice					
				S	Lab				
INGK202L	HTML, XML	2			2	P		1	1
INGK711E INGK711L	Computer Architectures	5 0	2		2	E S	INGK711L*	1	1
INGK102E INGK102G	Discrete Mathematics 2	5 0	2	2		E S	INGK101E, INGK102G*	2	2
INGK112E INGK112G	Calculus 2	5 0	2	2		E S	INGK111E, INGK112G*	2	2
INGK131E INGK131L	Probability Theory and Statistics	5 0	2		2	E S	INGK101E, INGK111E, INGK131L*	2	2
INGK421E INGK421G	Data Structures and Algorithms	5 0	2	2		E S	INGK201E, INGK421G*	2	2
INGK301E INGK301L	Programming Languages 1	5 0	2		2	E S	INGK201E, INGK301L*	2	2
INGK211E INGK211L	Operating Systems 1	5 0	2		2	E S	INGK201E, INGK211L*	2	2
INGK411E INGK411G	Automats and Formal Languages	5 0	2	2		E S	INGK101E, INGK411G*	1	3
INGK302E INGK302L	Programming Languages 2	5 0	2		2	E S	INGK301E, INGK302L*	1	3
INGK212E INGK212L	Operating Systems 2	5 0	2		2	E S	INGK211E, INGK212L*	1	3
INGK501E INGK501L	Database Systems	5 0	2		2	E S	INGK301E, INGK501L*	1	3
INGK601E INGK601L	Introduction to Computer Graphics	5 0	2		2	E S	INGK101E, INGK301E, INGK601L*	1	3
INGK141E INGK141L	Numerical Methods	5 0	2		2	E S	INGK102E, INGK141L*	2	4
INGK441E INGK441G	Introduction to Artificial Intelligence	5 0	2	2		E S	INGK302E or (INGK301E and INGK401E) INGK441G*	2	4
INGK311L	Programming Environments	2			2	P	INGK302E	2	4
INGK321E INGK321L	Programming Technologies	5 0	2		2	E S	INGK302E, INGK321L*	2	4
INGK721E INGK721L	Computer Networks and Protocols	5 0	2		2	E S	INGK711E, INGK212E, INGK721L*	2	4
INGK511E	Database Administration	3	2			E	INGK501E	1	5
INGK521E INGK521L	Technology of System Development	5 0	2		2	E S	INGK321E, INGK521L*	1	5
INGS001X	Thesis 1	10		0		P	INGK321E	F	5

Code	Subject	Credit	Hrs per week			Exam	Prere- quisites	Period	Semeste r
			L	Practice					
				S	Lab				
INGK451E INGK451G	Developing and Analyzing Algorithms	5 0	2	2		E S	INGK401E, INGK411E, INGK451G*	2	6
INGK231E	Internet Tools and Services	3	2			E	INGK521E	2	6
INGS002X	Thesis 2	10		0		P	INGK321E	F	6

Compulsory optional subjects

Code	Subject	Credit	Hrs per week			Exam	Prere- quisites	Period	Modul
			L	Practice					
				S	Lab				
INGV442E INGV442L	Programming Languages of Artificial Intelligence	5 0	2		2	E S	INGK401E, INGK441E, INGV442L*	I	A
INGV443E INGV443L	Knowledge-based Systems	5 0	2		2	E S	INGK441E, INGV443L*	I	A
INGV444E INGV444L	Some Aspects of Artificial Intelligence	3	2			E	INGK441E	I	A
INGV221E INGV221L	Compilers	5 0	2		2	E S	INGK411E, INGK302E, INGK221L*	I	A
INGV502E	Database System Implementation 1	3	2			E	INGK501E	I	B
INGV503E	Database System Implementation 2	3	2			E	INGV502E	I	B
INGV531E INGV531L	Advanced DBMS 1	5 0	2		2	E S	INGK501E, INGV531L*	I	B
INGV532E INGV532L	Advanced DBMS 2	5 0	2		2	E S	INGV531E, INGV532L*	I	B
INGV702L	Server Administration	3			2	P	INGK721E	I	C
INGV722E	High-Speed Local and Metropolitan Area Networks	3	2			E	INGK721E	I	C
INGV723E	Actual Problems of Voice and Data Communication	3	2			E	INGK721E	I	C
INGV724E INGV724L	Performance Evaluation of Networks	5 0	2		2	E S	INGK131E, INGV724L*	I	C

Code	Subject	Credit	Hrs per week			Exam	Prere- quisites	Period	Modul
			L	Practice					
				S	Lab				
INGV602E INGV602L	Computer Graphics	5 0	2		2	E S	INGK601E, INGV602L*	I	D
INGV603E INGV603L	Graphical Systems	5 0	2		2	E S	INGV602E, INGV603L*	I	D
INGV611L	GIS	3			2	P	INGK601E	I	D
INGV621E INGV621L	Multimedia	5 0	2		2	E S	INGK601E, INGV621L*	I	D
INGV122E	Information Theory	3	2			E	INGK131E	I	S
INGV123E INGV123L	Neural Networks	5 0	2		2	E S	INGK131E, INGV123L*	I	S
INGV132E INGV132L	Computer Statistics	5 0	2		2	E S	INGK131E, INGV132L*	I	S
INGV151E INGV151L	Operation Research	5 0	2		2	E S	INGK141E, INGV151L*	I	S

Exam types: E – exam
S – sign
P – practical

* subjects are parallel