

## Computer Science BSc curriculum

### Qualification requirements

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

### Diploma credit requirements:

Mathematics and Computer Science:	60 credits
Informatics	90 credits
Compulsory topics:	54 credits
Differentiated knowledge topics	36 credits
Thesis work:	20 credits
Free choice:	10 credits
<b>Total</b>	<b>180 credits</b>

### Mathematics and Computer Science – needed 60 credits

Code	Subject name	Credit	Type and number			Asses- ment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBPA0101E INBPA0101G	Logic in computer science	6	2	2		E S		1	1
INBPA0102E INBPA0102G	Discrete mathematics	6	2	2		PM		1	1
INBPA0103E INBPA0103L	Computer aided mathematics and visualization	6	2		2	PM		1	1
INBPA0206E INBPA0206G	Data structures and algorithms	6	2	2		E S	INBPA0101 INBPA0102	2	2
INBPA0207E INBPA0207G	Calculus	6	2	2		E S		2	2
INBPA0313E INBPA0313L	Applied statistics	6	2		2	E S	INBPA0207	1	3
INBPA0314E INBPA0314G	Introduction to computer science	6	2	2		E S	INBPA0102	1	3
INBPA0417L	Applied mathematics	6			4	PM	INBPA0102	2	4
INBPA0418E INBPA0418L	Foundations of artificial intelligence	6	2		2	E S	INBPA0101 INBPA0212	2	4
INBPA0419E INBPA0419L	Foundations of computer security	6	2		2	E S	INBPA0101 INBPA0210	2	4

### Informatics (Compulsory topics) – needed 54 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBPA0104L	Introduction to programming	3			2	PM		1	1
INBPA0105E INBPA0105L	Operating systems	6	2		2	PM		1	1
INBPA0208E	Database systems	3	2			E	INBPA0101	2	2
INBPA0209L	Database systems lab	3			2	PM	INBPA0101	2	2
INBPA0210E INBPA0210L	Network architectures and protocols	6	2		2	E S	INBPA0104 INBPA0105	2	2
INBPA0211E	High-level programming languages 1	3	2			E	INBPA0104	2	2
INBPA0212L	High-level programming languages 1 lab	3			2	PM	INBPA0104	2	2
INBPA0315L	High-level programming languages 2	6			4	PM	INBPA0212	1	3
INBPA0316E INBPA0316L	Web technologies	6	2		2	E S	INBPA0104	1	3
INBPA0420E INBPA0420L	Software engineering and technologies	6	2		2	PM	INBPA0315	2	4
INBPA0521L	Software development methodologies	3			2	PM	INBPA0212	1	5
INBPA0522L	Web application development	6			4	PM	INBPA0315 INBPA0316	1	5

### Thesis work – needed 20 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	gyakorlat					
				tant.	labor				
INBPA0623X	Thesis	20				PM		2	6

### Informatics (Differentiated knowledge topics) – needed 36 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBPA9924L	3D printing and modeling	3			2	PM	INBPA0103	2	2
INBPA9925L	Cloud computing	3			2	PM	INBPA0105	2	2
INBPA9926L	Basics of GIS	3			2	PM	INBPA0103	2	2
INBPA9927L	Bioinformatics	3			2	PM	INBPA0206	1	3
INBPA9928L	E-Sport	3			2	PM	INBPA0212	1	3
INBPA9929E INBPA9929L	Operation of infocommunication systems	6	2		2	PM	INBPA0210	1	3
INBPA9930L	Image processing in practice	3			2	PM	INBPA0212	1	3
INBPA9931L	High-level programming languages 3	3			2	PM	INBPA0212	1	3
INBPA9932L	Introduction to 3D game development	3			2	PM	INBPA0103 INBPA0315	2	4
INBPA9933L	Compilers	3			2	PM	INBPA0211 INBPA0212 INBPA0314	2	4
INBPA9934L	Machine learning in practice	3			2	PM	INBPA0212 INBPA0313	2	4
INBPA9935L	Advanced database knowledge	3			2	PM	INBPA0209	2	4

