UNIVERSITY of DEBRECEN

FACULTY OF INFORMATICS

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Computer Science Engineering BSc curriculum – 2021

Debrecen
2022/2023.

COMPUTER SCIENCE ENGINEERING BSC CURRICULUM

Qualification requirements

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

Work and Fire Safety and Physical Education

The courses of „Work and Fire Safety" and „Physical Education" are worth 1 - 1 credit, which must be completed in excess of the number of credits required for the diploma as specified in the training and outcome requirements of the degree.

Diploma credit requirements:

Natural Science:	44 credits
Humane and Economic Knowledge:	15 credits
Compulsory topics	96 credits
Differentiated knowledge topics:	30 credits
Professional Training:	12 credits
Thesis work:	15 credits
Free choice:	10 credits
Total:	**210 credits**
Work and Fire Safety:	1 credit
Physical Education (2 semesters):	2 credits

Natural Science – needed 44 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0101-17 NBMA0101G	Algorithms and Basics of Programming	2		2		PM		1	1
INBMA0102-17 INBMA0102E INBMA0102L	Electronics	6	2		2	PM		1	1
INBMA0103-21 INBMA0103E INBMA0103L	Physics	6	2		2	E S		1	1
INBMA0104-17 INBMA0104E INBMA0104G	Calculus	6	2	2		E S		1	1
INBMA0105-17 INBMA0105E INBMA0105L	Mathematics for Engineers 1	6	2		2	PM		1	1
INBMA0207-17 INBMA0207E INBMA0207G	Data Structures and Algorithms	6	2	2		E S		2	2
INBMA0208-17 INBMA0208E INBMA0208L	Mathematics for Engineers 2	6	2		2	E S	INBMA0104-17 INBMA0105-17	2	2

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0313-17 INBMA0313E INBMA0313L	Probability Theory and Mathematical Statistics	6	2		2	PM	INBMA0104-17 INBMA0105-17	1	3

Human and Economic Knowledge – needed 15 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0314-17 INBMA0314E INBMA0314G	Economics	6	2	2		E S		1	3
INBMA0531-21 INBMA0531E	Fundamentals of Business Law	3	2			E		1	5
INBMA0632-17 INBMA0632E INBMA0632G	Management Basics for Engineers	6	2	2		E S		2	6

Compulsory topics – needed 96 kredits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0106-17 INBMA0106E INBMA0106G	Introduction into Logic and Computer Science	4	2	2		E S		1	1
INBMA0209-17 INBMA0209E INBMA0209G	Digital Design	6	2	2		E S	INBMA0102-17	2	2
INBMA0210-17 INBMA0210L	Digital Design Laboratory	3			2	PM	INBMA0102-17	2	2
INBMA0211-21 INBMA0211E INBMA0211L	Programming Languages 1	6	2		2	E S	INBMA0101-17	2	2
INBMA0220-21 INBMA0220L	Operating Systems	3			2	PM		2	2
INBMA0315-17 INBMA0315L	Signals and Systems	3			2	PM	INBMA0102-17 INBMA0208-17	1	3
INBMA0316-17 INBMA0316L	Introduction to Graphical Programming Environment	3			2	PM	INBMA0101-17	1	3
INBMA0317-21 INBMA0317G INBMA0317L	Programming Languages 2	6		2	2	PM	INBMA0211-21	1	3
INBMA0318-17 INBMA0318E INBMA0318L	Computer Networks	6	2		2	E S	INBMA0220-21	1	3
INBMA0412-21 INBMA0412E	Computer Architectures	3	2			E	INBMA0209-17	2	4

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0419-17 INBMA0419E	Management of Data Network Systems	3	2			E	INBMA0318-17	2	4
INBMA0421-17 INBMA0421L	System Programming	3			2	PM	INBMA0211-21	2	4
INBMA0422-21 INBMA0422L	Control Systems	3			2	PM	INBMA0315-17	2	4
INBMA0424-17 INBMA0424E	Enterprise Information Systems	3	2			E		2	4
INBMA0425-17 INBMA0425L	Web Solutions	3			2	PM	INBMA0211-21	2	4
INBMA0433-21 INBMA0433E INBMA0433L	Database Systems and Knowledge Representation	6	2		2	PM	INBMA0211-21	2	4
INBMA0523-21 INBMA0523E INBMA0523L	Software Development for Engineers	6	2		2	E S	INBMA0317-21	1	5
INBMA0527-17 INBMA0527L	Assembly Programming	3			2	PM	INBMA0211-21 INBMA0412-21	1	5
INBMA0528-17 INBMA0528E INBMA0528L	Embedded Systems	6	2		2	E S	INBMA0211-21 INBMA0412-21	1	5
INBMA0529-17 INBMA0529G	Modeling and Analysis of Information Technology Systems	2		2		PM	INBMA0313-17	1	5
INBMA0626-21 INBMA0626E INBMA0626L	Introduction into Artificial Intelligence	6	2		2	E S	INBMA0106-17 INBMA0207-17 INBMA0211-21	2	6
INBMA0630-21 INBMA0630L	Mobile Solutions	3			2	PM	INBMA0317-21	2	6
INBMA0634-17 INBMA0634L	IT Security	3			2	PM	INBMA0220-21	2	6
INBMA0635-17 INBMA0635L	Computer Graphics	3			2	PM	INBMA0211-21	2	6

Thesis work – needed 15 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA0636-21 INBMA0636X	Thesis 1	6				PM		2	6
INBMA0736-21 INBMA0736X	Thesis 2	9				PM		1	7

Differentiated knowledge topics – needed 30 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBMA9937-17 INBMA9937E INBMA9937L	Microcontrollers	6	2		2	PM	INBMA0209-17 INBMA0211-21	2	4
INBMA9946-17 INBMA9946E	Fundamentals of Information and Coding Theory	3	2			E	INBMA313-17	2	4
INBMA9938-21 INBMA9938L	Programming Network Devices 1	6			4	PM	INBMA0318-17	1	5
INBMA9939-17 INBMA9939E INBMA9939L	Programmable Logic Devices	6	2		2	PM	INBMA0209-17 INBMA0211-21	1	5
INBMA9945-17 INBMA9945L	Scripting Languages	3			2	PM	INBMA0211-21	1	5
NBMA9940-17 INBMA9940L	Development of Embedded Systems	6			4	PM	INBMA0528-17 (INBMA9937-17 OR INBMA9939-17)	2	6
NBMA9941-21 INBMA9941L	Programming Network Devices 2	6			4	PM	INBMA9938-21	2	6
NBMA9942-17 INBMA9942E INBMA9942L	Modeling and Performance Evaluation of Networks	6	2		2	PM	INBMA0529-17	2	6
NBMA9943-17 INBMA9943E INBMA9943L	Telecommunication Systems	6	2		2	PM	INBMA0318-17	2	6
INBMA9947-17 INBMA9947L	Introduction to Cloud Technologies	3			2	PM	INBMA0211-21	2	6
INBMA9997-21 INBMA9997G	Professional Training	12				PM	INBMA0317-21 INBMA0318-17	I	6
NBMA9944-17 INBMA9944E INBMA9944L	Sensors and actuators Network	6	2		2	PM	INBMA0318-17 INBMA9937-17	1	7
INBMA9951-17 INBMA9951L	Basics of Autonomous Vehicles Development	6			4	PM	INBMA0211-21	I	
INBMA9953-17 INBMA9953E	Blockhain technology	3	2			E		I	

Free choice – needed 10 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				

Exam types:
E exam
S sign
PM practical