

Regular training curriculum

BSc in Computer Science Engineering (Regular training curriculum)

hours per week (lec=lecture, sem=seminar, lab=laboratory); requirements (r); ex=exam, m=mid-term mark, c=comprehensive exam, s=signature; credits (cr)

	Code	Course Name	Weekly hours	Credit	Semesters																												Prerequisite	Prerequisite							
					1.					2.					3.					4.					5.					6.					7.						
					lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	Code	Code					
Natural Sciences					35	42	10	6	1	21	8	6	0	16	0	0	0	0	0	2	2	0	5	0	0	0	0	0	0	0	0	0	0	0							
1.	NMXAN1EBNE	Mathematics I – Calculus I	6	6	3	3	0	m	6																									1.	NMXAN1EBNE						
2.	NMXAN2EBNE	Calculus II	6	6						3	3	0	ex	6																											
3.	NMXDM1EBNE	Discrete Mathematics and Linear Algebra I	5	6	3	2	0	ex	6																									3.	NMXDM1EBNE						
4.	NMXDM2EBNE	Discrete Mathematics and Linear Algebra II	5	5						3	2	0	ex	5																					2.	NMXAN2EBNE					
5.	NMXVS1EBNE	Probability Theory and Mathematical Statistics	4	5																2	2	0	ex	5																	
6.	NIXBI1EBNE	Basics of Information Systems	3	4	2	0	1	m	4																									1.	NMXAN1EBNE						
7.	KVXF1EBNE	Physics	3	5						2	1	0	ex	5																											
8.	KVEVI1EBNE	Electrical Engineering *	3	5	2	1	0	ex	5																																
Economic and Human Studies					14	18	2	0	0	2	1	1	0	2	2	0	0	2	3	1	0	6	1	1	0	3	2	0	0	3	0	0	0	0							
9.	GGXKG1EBNE	Macroeconomics	2	2	2	0	0	m	2																										9.	GGXKG1EBNE					
10.	GGXKG2EBNE	Microeconomics	2	2						1	1	0	m	2																											
11.	GSXVG1EBNE	Enterprise Economics I	2	2											2	0	0	m	2																						
12.	GSXVG2EBNE	Enterprise Economics II	2	2															1	1	0	m	2											11.	GSXVG1EBNE						
13.	GVXME1EBNE	Basics of Management	2	3																	1	1	0	m	3																
14.	GGXJA1EBNE	Public Administration and Law	2	3																					2	0	0	m	3						13.	GVXME1EBNE					
15.	NNXIK1EBNE	Infocommunication Techniques	2	4															2	0	0	m	4																		

* e-learning Blended

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Code		Course Name		Weekly hours		Credit		1.				2.				3.				4.				5.				6.				7.				Prerequisite		Prerequisite																																																																					
								lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	Code	Code																																																															
Core Studies:																																								89	122																																																																		
16.	NIXSF1EBNE	Software Design and Development I	6	6	3	0	3	ex	6					3	0	3	ex	6					8	1	12	25	9	0	10	22	7	0	8	18	4	0	5		17	4	0	5		20			16.	NIXSF1EBNE																																																											
17.	NIXSF2EBNE	Software Design and Development II	6	6																																																																							17.	NIXSF2EBNE																															
18.	NIXWH1EBNE	Web Programming and Advanced Development Techniques	5	5																																																																							18.	NIXWH1EBNE																															
19.	NIXAB0EBNE	Databases	4	5																																																																							19.	NIXAB0EBNE																															
20.	NIXSG1EBNE	Software Technology and GUI Design	5	5																																																																							20.	NIXSG1EBNE																															
21.	NIXRE1EBNE	System Theory	4	4																																																																							21.	NIXRE1EBNE																															
22.	NIEEL0EBNE	Electronics *	4	4																																																																							22.	NIEEL0EBNE																															
23.	NIXDR0EBNE	Digital Systems	4	5																																																																							23.	NIXDR0EBNE																															
24.	NIESA1EBNE	Introduction to Computer Architectures *	4	4																																																																							24.	NIESA1EBNE																															
25.	NIXKA1EBNE	Advanced Computer Architectures I	2	2																																																																							25.	NIXKA1EBNE																															
26.	NIXKA2EBNE	Advanced Computer Architectures II	2	2																																																																							26.	NIXKA2EBNE																															
27.	NIEOR1EBNE	Operating Systems *	5	5																																																																							27.	NIEOR1EBNE																															
28.	NIXSH0EBNE	Computer Networks	4	4																																																																							28.	NIXSH0EBNE																															
29.	NIXRU0EBNE	Intelligent Systems	3	3																																																																							29.	NIXRU0EBNE																															
30.	NIXVI0EBNE	Enterprise Information Systems	4	4																																																																							30.	NIXVI0EBNE																															
31.	NIEIB0EBNE	IT Security *	4	4																																																																							31.	NIEIB0EBNE																															
32.	NIXSS1EBNE	Comprehensive Exam	0	0																																																																							32.	NIXSS1EBNE																															
33.		Specialization **	24	30																																																																							33.																																
34.	NNPPR1EBNE	Project Work	4	8																																																																							34.	NNPPR1EBNE																															
	NNDS01EBNE	Thesis I	6	6																																																																																																							
	NNDS02EBNE	Thesis II	9	9																																																																																																							

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Code	Course Name	Weekly hours	Credit	Semesters																															
				1.				2.				3.				4.				5.				6.				7.							
				lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr		
Electives				22	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	8	0	0	12	8	0	0	10		
35.	Mandatory elective specialization courses I *	10	12																4				4					6				8			
36.	Mandatory elective specialization courses II *	4	6																				4					6							
37.	Electives free to choose ***	8	10																2				2	4				6	2			2			
	In total	160	210	15	6	4	0	29	16	7	7	0	32	10	1	12	0	27	14	3	10	0	33	14	1	8	0	27	14	0	5	0	32		
	Weekly hours in total			25					30					23					27				23				19					17			
	Exam (ex)					3						5				2				4				3				2				2			
	Mid-term mark (m)					3						2				4				5				3				4				3			
38.	Sports I								2		s			2		s																			
39.	Sports II													2		s																			

* Mandatory elective specialization courses can be chosen from the other specialization or subspecialization lectures.
** The specialization subjects are listed on Appendix 1. Worksheet.
*** Any specialization subject not chosen as mandatory elective one.
**** Final exam subjects: Advanced Computer Architectures II and the subject of the chosen specialization.

Regular training curriculum

Cooperative training program

Code	Subjects	Weekly hours	Credit	Semester(s)					Semester(s)				
				lec	sem	lab	req	cr	lec	sem	lab	req	cr
	Cooperative training practical part I		20				m	20					
	Cooperative training practical part II		20								m		20
	Cooperative training theoretical part I		10					10					
	Cooperative training theoretical part II		10										10
	Összesen:							30					30

Registration conditions for the BSc Computer Science Engineering cooperative training:

1. 120 credits accumulated a priori.
2. Admission to the position of the cooperative industrial partner.
3. Starting semester could be only in 5th, 6th or 7th semester.

Remarks for the cooperative training:

1. For weekly 4 days practical and 1 day theoretical training 20 and 10 credits can be accumulated.
2. For weekly 3 days or 2 days practical training the total possible credit number to be accumulated is decreased accordingly.
3. The theoretical training part of the cooperative training can be done at the industrial partner as well.
4. The cooperative training can be done in one or two semesters.

Regular training curriculum

Appendix 1

hours per week (lec=lecture, sem=seminar, lab=laboratory); requirements (r): ex=exam, m=mid-term mark; credits (cr)																																		
	Code	Course Name	Weekly hours	Credit	Semesters																												Prerequisite	Prerequisite
					1.				2.				3.				4.				5.				6.				7.				Code	Code
					lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr	lec	sem	lab	req	cr					
Specializations																																		
IOT, Embedded Systems and Robotics Specialization (J)																																		
40.	NAXIT3JBNE	Control Engineering	24	30	0	0	0	0	0	0	0	0	0	0	0	2	0	4	8	3	0	3	8	2	0	4	7	2	0	4	7			
41.	NIXBE1JBNE	Embedded and Sensor Based Systems	3	4												1	0	2	m	4											21.	NIXRE1EBNE		
42.	NBXR1JBNE	Introduction to Robotics	3	4																1	0	2	ex	4							23.	NIXDR0EBNE		
43.	NIXBP1JBNE	Embedded Programming I	3	4																3	0	0	ex	4							40.	NAXIT3JBNE		
44.	NBXR2JBNE	Introduction to Robot Programming	2	3																0	0	3	m	4							41.	NIXBE1JBNE		
45.	NIEBP2JBNE	Embedded Programming II **	4	4																				2	0	0	ex	3			42.	NBXR1JBNE		
46.	NBER1JBNE	Robot Control **	3	3																			0	0	4	m	4				43.	NIXBP1JBNE		
47.	NIXS1JBNE	Sensor Networks, IoT Systems	3	4																								1	0	2	m	3	40.	NAXIT3JBNE
Big Data and Business Intelligence Specialization (B)																																		
48.	GOXVP1BBNE	Introduction to Finance and Accounting of Enterprises	24	30	0	0	0	0	0	0	0	0	0	0	0	5	0	2	8	3	0	3	8	4	0	2	7	2	0	3	7			
49.	NIXKD1BBNE	Advanced Databases	3	3												3	0	0	m	3												19.	NIXAB0EBNE	
50.	NIXAT1BBNE	Data Warehousing and Business Intelligence	4	5												2	0	2	ex	5												49.	NIXKD1BBNE	
51.	NIEBD1BBNE	Big Data Algorithms and Programming **	6	8																3	0	3	ex	8								49.	NIXKD1BBNE	
52.	NIXER1BBNE	Enterprise Resource Planning I	4	5																			2	0	2	ex	5					30.	NIXV10EBNE	
53.	NIEER2BBNE	Enterprise Resource Planning II **	2	2																			2	0	0	m	2					52.	NIXER1BBNE	
* In case of cooperative training participants, see cooperative training description.																																		
** e-learning blend																																		

* In case of cooperative training participants, see cooperative training description.
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