Obuda University
John von Neumann Faculty of Informatics

BSc Curriculum
Full-time

BSc in Computer Science Engineering (Regular training curriculum) from 2024/2025

with weekly hours (lec., sem., lab.,). ; prerequisites (req.); credits (cr.)

	Code	Course Name	Responsible	Weekly hours	credit	Semesters																														Prerequisite		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	lec	sem	lab	req	cr					
	Natural Sciences			*35*	*42*	6	7	0		17	6	5	1		14	2	3	0		5	2	3	0		6	0	0	0		0	0	0	0		0	0	0	0		0					
1.	NMXMA1EBNF	Basic Mathematics	Dr. habil. Gábor Hegedüs	4	*6*	2	2	0	m	*6*																																
2.	NMXIMAEBNF	Mathematical Foundations of Informatics	Dr. Magdolna Szőke	5	*6*	2	3	0	ex	*6*																																
3.	NKXEAIEBNF	Electronics Basic	Dr. Henriette Komorócki-Steiner	3	*5*						2	0	1	ex	*5*																								7.	KTXFIBEBNF			
4.	NMXAN1EBNF	Calculus I.	Dr. István Vajda	4	*4*						2	2	0	ex	*4*																								1.	NMXMA1EBNF			
5.	NMXDM1EBNF	Discrete Mathematics and Linear Algebra	Dr. Magdolna Szőke	4	*4*						2	2	0	ex	*4*																								2.	NMXIMAEBNF			
6.	NMXAN2EBNF	Calculus II.	Dr. István Vajda	4	*4*											2	2	0	ex	*4*																		4.	NMXAN1EBNF			
7.	KTXFIBEBNF	Physics*	Prof. Dr. habil. Ervin Rácz	3	*4*	2	1	0	ex	*4*																																
8.	NMXVMSEBNF	Probability Theory and Mathematical Statistics	Dr. Péter Kárász	4	*5*																2	2	0	ex	*5*														6.	NMXAN2EBNF			
9.	OTTPH1EBNF	Physical Training I.	Ákos Hiervarter	1	*1*	0	1	0	t	*1*																																
10.	OTTPH2EBNF	Physical Training II.	Ákos Hiervarter	1	*1*						0	1	0	t	*1*																												
11.	OTTPH3EBNF	Physical Training III.	Ákos Hiervarter	1	*1*											0	1	0	t	*1*																						
12.	OTTPH4EBNF	Physical Training IV.	Ákos Hiervarter	1	*1*																0	1	0	t	*1*																
	Economic and Human Studies			12	19	2	1	0		6	1	2	0		5	0	2	0		4	0	4	0		4	0	0	0		0	0	0	0		0	0	0	0		0					
13.	NBXTM1EBNF	Learning Methodology	Prof. Dr Kornélia Lazányi	3	*6*	2	1	0	m	*6*																																
14.	NKXVP1EBNF	Business and project management	Dr. Anikó Almási	4	*4*																0	4	0	m	*4*																
15.	NBXTF1EBNF	Tutoring preparation and project documentation techniques	Prof. Dr. Kornélia Lazányi	3	*5*						1	2	0	m	*5*																												
16.	NBXTUTEBNF	Tutoring	Prof. Dr. Kornélia Lazányi	2	*4*											0	2	0	m	*4*																				15.	NBXTF1EBNF			
	Core Studies:			91	127	1	0	3		6	4	0	5		11	11	0	10		22	10	1	7		23	10	0	11		27	6	0	8		18	2	0	2		20					
17.	NSXPP1EBNF	Problemsolving using programming	Dr. Szabolcs Sergyán	4	*6*	1	0	3	ex	*6*																																
18.	NSXSFAEBNF	Basics of Software Development	Dr. habil. Zoltán Vámossy	5	*6*						2	0	3	ex	*6*																								17.	NSXPP1EBNF			
19.	NKXAB1EBNF	Databases*	Dr. habil. Rita Fleiner	4	*5*						2	0	2	m	*5*																								17.	NSXPP1EBNF			
20.	NKXEL1EBNF	Electronics	Dr. Henriette Komorócki-Steiner	4	*5*											2	0	2	m	*5*																				3.	NKXEAIEBNF			
21.	NSXAA1EBNF	Algorithms and data structures *	Prof. Dr. Sándor Szénási	5	*5*											3	0	2	ex	*5*																				18.	NSXSFAEBNF			
22.	NSXHSFEBNF	Advanced software development *	Dr. habil. Zoltán Vámossy	4	*4*											2	0	2	m	*4*																				18.	NSXSFAEBNF			
23.	NKXDR1EBNF	Digital systems	Dr. Henriette Komorócki-Steiner	4	*4*											2	0	2	m	*4*																				3.	NKXEAIEBNF			
24.	NKXSH1EBNF	Computer Networks	Dr. Eszter Balázsné Kail	4	*4*											2	0	2	ex	*4*																				2.	NMXIMAEBNF			
25.	NSXFSSEBNF	Full-stack development *	Dr. habil. Zoltán Vámossy	4	*5*																2	0	2	m	*5*														22.	NSXHSFEBNF			
26.	NSXST1EBNF	Softwaretechnology *	Dr. habil. Zoltán Vámossy	2	*4*																2	0	0	ex	*4*														18.	NSXSFAEBNF			
27.	NBXRE1EBNF	System theory	Dr. Dániel András Drexler	3	*4*																2	1	0	ex	*4*														6.	NMXAN2EBNF			
28.	NSXMI1EBNF	Artificial intelligence *	Dr. Gábor Kertész	4	*5*																2	0	2	m	*5*														21.	NSXAA1EBNF			
29.	NKXOR1EBNF	Operating systems *	Dr. habil. Róbert Lovas	5	*5*																2	0	3	ex	*5*														24.	NKXSH1EBNF			
30.	NBXSS1EBNF	Comprehensive Exam	Prof. Dr. Levente Kovács	0	*0*																0	0	0	c	*0*														21.	NSXAA1EBNF	23.	NKXDR1EBNF	20.	NKXEL1EBNF
31.	NKXSA1EBNF	Introduction to Computer Architectures	Prof. Dr. Dezső Sima	3	*4*																					3	0	0	ex	*4*									23.	NKXDR1EBNF			
32.	NBXIB1EBNF	IT security*	Dr. Valéria Póser	4	*5*																					2	0	2	ex	*5*									29.	NKXOR1EBNF			
33.	NSXMP1EBNF	Mobile programming *	Dr. Gábor Simon-Nagy	3	*4*																					1	0	2	m	*4*									25.	NSXFSSEBNF			
34.	NKXKSAEBNF	Modern computer architectures *	Prof. Dr. Dezső Sima	2	*4*																										2	0	0	ex	*4*				31.	NKXSA1EBNF			
		Specialization [3]		20	*25*																					*4*	*0*	*4*		*10*	*4*	*0*	*4*		*10*	*2*	*0*	*2*		*5*	30.	NBXSS1EBNF			
35.	NDPPM1EBNF	Project work I.	Dr. László Csink	3	*4*																					0	0	3	m	*4*													
36.	NDPPM2EBNF	Project work II.	Dr. László Csink	4	*4*																										*0*	*0*	*4*	*m*	*4*				35.	NDPPM1EBNF			
37.	NDDSD1EBNF	Thesis work	Prof. Dr. Levente Kovács	0	*15*																															0	0	0	m	*15*	36.	NDPPM2EBNF			
	Electives			12	22	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	2	0	2		4	0	0	4		10	2	0	2		8					
38.	Mandatory elective professional courses [1]			12	*12*																					2	0	2		*4*	0	0	4		*4*	2	0	2		*4*					
39.	Optional elective courses			0	*10*																														*6*					*4*					
		In total		150	210	9	8	3		29	11	7	6		30	13	5	10		31	12	8	7		33	12	0	13		31	6	0	12		28	4	0	4		28					
		Weekly hours in total				20					24					28					27					25					18					8									
		Exam (ex)							3					4					3					4				2					1					0					
		Mid-term mark (m)						2					2					4					3				2					1					1					
	Criterion subjects			1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
40.	NDIPT1EBNF	Mentoring	Prof. Dr. Kornélia Lazányi	1	*0*	0	1	0	s	*0*																																
	Specializations [2]																																												
	Cloud Service Technologies and IT Security Specialization			20	*25*	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	4		10	4	0	4		10	2	0	2		5					
41.	NKXHT1EBNF	Network Technologies	Dr. Eszter Balázsné Kail	4	*5*																					2	0	2	ex	*5*									24.	NKXSH1EBNF			
42.	NKXFS1EBNF	Cloud Computing Services	Dr. habil. Róbert Lovas	4	*5*																					2	0	2	m	*5*									29.	NKXOR1EBNF			
43.	NBXSF1EBNF	Security of Computer Networks and Clouds	Dr. Anna Vörösné Bánáti-Baumann	4	*5*																										2	0	2	ex	*5*				41.	NKXHT1EBNF			
44.	NBXIS1EBNF	Security of Information Systems and Services	Dr. Valéria Póser	4	*5*																										2	0	2	ex	*5*				32.	NBXIB1EBNF			
45.	NKXVH1EBNF	Technologies of Virtualised Networks and Data Centers*	Dr. habil. Róbert Lovas	4	*5*																															2	0	2	m	*5*	42.	NKXFS1EBNF	41.	NKXHT1EBNF		

The subjects of the final examination are: the subject group of the chosen specialisation.

* e-learning blended

[1] You can choose the mandatory elective professional courses from the list of the Facultys' or institutes' websites, which is constantly updated.

[2] The prerequisite to start a specialization is a successful comprehensive examination.

Curriculum for cooperative training

Code	Course name	*Credits*	Semester(s)					Semester(s)				
			lec	sem	lab	req	cr	lec	sem	lab	req	cr
	Practical part of cooperative training I.	*20*				m	*20*					
	Practical part of cooperative training II.	*20*									m	*20*
	Theoretical part of cooperative training II.	*10*					*10*					
	Theoretical part of cooperative training I.	*10*										*10*
	Total:						*30*					*30*

The conditions for enrolment in the cooperative study programme for computer engineers:

1. 1. A minimum of 120 credits must be completed before starting a cooperative course.
2. The applicant must be accepted for the position advertised by the cooperative partner company.
3. The start of cooperative training can be in the 5th, 6th or 7th semester.

Comments on the delivery of cooperative training:

1. 4 days of practical training and 1 day of theoretical training per week will result in 20 and 10 credits respectively.
2. In the case of 3 days or 2 days of practical training per week, the credits earned are reduced proportionally.
3. The theoretical part of the cooperative training can be completed at the cooperating partner.
4. The cooperative training can take place in one or two semesters.