Computer Science BSc curriculum 2021

ENGLISH COURSE TITLE	COURSE TYPE / EXAM	HOUR / WEEK (lect.+sem.)						CREDIT	PREREQUISITE	INSTRUCTOR-IN-CHARGE
		1	2	3	4	5	6			
1.OBLIGATORY COURSES:								116		
Elementary linear algebra	lect+sem/Coll	2+2						5		Dr. Frigyik Béla András
Probability and statistics	lect+sem/Coll			2+1				3		Dr. Frigyik Béla András
Mathematical logic	sem/Pract	0+2						2		Dr. Zentai Norbert
Numerical methods I.	lect+sem/pract				2+2			5	Elementary linear algebra	Dr. Király Balázs
Numerical methods II.	sem/Pract					0+2		2	Numerical methods I.	Dr. Király Balázs
Operations research	sem/Pract					0+3		3	Elementary linear algebra	Dr. Király Balázs
Discrete mathematics I.	lect+sem/Coll	2+2						6		Dr. Szabó Sándor
Discrete mathematics II.	lect+sem/Coll		2+2					5		Dr. Jenei Sándor
Basics of computer science	lect+sem/pract			2+2				6	Discrete mathematics I.	Dr. Jenei Sándor
Elementary programming	sem/Pract	0+4						4		Dr. Zentai Norbert
Programming I.	sem/Pract	0+4						6		Dr. Gimesi László
Programming II.	sem/Pract		0+4					6	Programming I.	Dr. Gimesi László
Compilers and assemblers	sem/Pract					0+2		2		Dr. Gimesi László
Algorithms, data structures	lect+sem/Coll		2+2					5		Dr. Jenei Sándor
Formal languages and automata	lect+sem/pract	2+2						5		Dr. Jenei Sándor
Relational databases	lect+sem/Coll			2+2				5		Dr. Laczkó József
Methodology of programming I.	lect+sem/pract		2+2					6	Programming I.	Dr. Zentai Norbert
System engineering	lect+sem/Coll			2+2				4		Dr. Horváth Zoltán
Operating systems	lect+sem/Coll						2+2	5		Dr. Almási Gábor
Computer architectures	lect/Coll	2+0						2		Dr. Almási Gábor
Computer networks	lect/Coll		4+0					6		Dr. Mechler Mátyás Illés
IT security	lect/Coll						2+0	3		Dr. Zentai Norbert
Operation of IT systems	sem/Pract				0+2			3		Dr. Zentai Norbert

Introduction to Artificial Intelligence	lect/Coll				2+0			3		Dr. Szabó Sándor
Control technology	lect+sem/Coll						1+2	4		Dr. Laczkó József
Calculus I.	lect+sem/Coll	2+2						5		Dr. Pap Margit
Calculus II.	lect+sem/Coll		2+2					5	Calculus I.	Dr. Pap Margit
1.1. OBLIGATORY COURSES , Software Development Specialization:								23		
Web programming I.	lect+sem/pract			2+2				6	Methodology of programming I.	Rébay Viktor
State-of-art database systems	lect+sem/pract				1+1			3		Dr. Horváth Zoltán
Methodology of programming II.	lect+sem/pract			2+2				6	Methodology of programming I.	Dr. Zentai Norbert
Software development technologies	lect+sem/pract				1+3			5	Methodology of programming I.	Kiss-Vincze Tamás
Frontend frameworks	sem/Pract				0+2			3	Methodology of programming I.	Dr. Horváth Zoltán
1.1.1 ELECTIVE COURSES, Software Development Specialization								13		
1.2. OBLIGATORY COURSES , GIS Specialization:								36		
Introduction to Geography	lect+sem/Coll					1+2		4		Dr. Nagyváradi László
Analog Cartography	sem/Pract				0+2			3		Dr. Nagyváradi László
Digital Cartography	sem/Pract				0+2			3		Dr. Gyenizse Péter
Introduction to GIS II.	sem/Pract				0+3			4		Dr. Kovács István Péter
Data Acquisition Methods	sem/Pract					0+2		4		Dr. Ronczyk Levente
Introduction to ArcGIS	sem/Pract					0+3		4		Dr. Pirkhoffer Ervin
GIS Software I.	sem/Pract				0+2			4		Dr. Bugya Titusz
GIS Software II.	sem/Pract						0+2	4		Dr. Pirkhoffer Ervin
Web GIS	sem/Pract					0+3		6		Dr. Bugya Titusz
2. ELECTIVE COURSES for Software Development Specialization										
Analysis 3.	lect+sem/Coll			2+2				4	Calculus II.	Dr. Pap Margit
Analysis 4.	lect+sem/Coll				2+1			5	Analysis 3. OR Calculus II.	Dr. Pap Margit
Analysis 5.	lect+sem/Coll					1+2		3	Analysis 4. OR Calculus II.	Dr. Eisner Timea

Complex functions	lect+sem/Coll				2+2			4	Analysis 5. OR Calculus II.	Dr. Pap Margit
Chapters of Linear Algebra	lect+sem/Coll				2+1			5	Elementary linear algebra	Dr. Simon Ilona
Mobile technology	sem/Pract					0+4		6		Dr. Zentai Norbert
Web programming II.	lect+sem/pract				2+2			5	Web programming I.	Rébay Viktor
Basics of desktop publishing	sem/Pract					0+3		3		Rébay Viktor
Biorobotics	lect+sem/Coll					2+1		4		Dr. Laczkó József
Microcontroller programming	lect+sem/pract					0+4		4		Dr. Almási Gábor
MATLAB I.	sem/Pract				0+3			3		Dr. Mechler Mátyás Illés
MATLAB II.	sem/Pract					0+2		2		Dr. Mechler Mátyás Illés
CAD I	sem/Pract					0+2		2		Dr. Polónyi Gyula
CAD II	sem/Pract						0+2	2		Dr. Polónyi Gyula
LabView basics	sem/Pract				0+2			3		Dr. Márton Zsuzsa
LabView II	sem/Pract					0+2		3		Dr. Márton Zsuzsa
Introduction into Maxima	sem/Pract				0+2			2		Dr. Mechler Mátyás Illés
Visualization techniques	sem/Pract					0+2		3		Dr. Almási Gábor
Computer graphics	sem/Pract				0+2			2		Dr. Gimesi László
Neural networks	sem/Pract				0+2			2		Dr. Gimesi László
Advanced Python programming	sem/Pract				0+2			3	Elementary programming	Dr. Zentai Norbert
Basics of C#	sem/Pract				0+2			3	Methodology of programming I.	Dr. Zentai Norbert
Coding theory	lect+sem/pract				2+1			5	Elementary linear algebra	Dr. Jenei Sándor
Computer game development	sem/Pract						0+2	2		Kiss-Vincze Tamás
Introduction to LaTex typesetting	sem/Pract				0+2			3		Dr. Mechler Mátyás Illés
IT Life (Openminds)	sem/Pract					0+3		4		Dr. Lendvai Tamás
Programming languages	lect/Coll				2+0			4		Dr. Almási Gábor
Distributed systems, parallel programming	sem/Pract					0+3		3		Dr. Zentai Norbert
Professional communication	lect+sem/pract				0+2			3		Dr. Zentai Norbert

SAP ABAP Programming	sem/Pract						0+2	4	Methodology of programming I.	Dr. Lendvai Tamás
Vaadin backend-frontend framework	sem/Pract						0+3	4	Methodology of programming I.	Dr. Horváth Zoltán
Basics of Android	sem/Pract						0+3	4		Dr. Horváth Zoltán
3. FACULTATIVE COURSES								8		
4. THESIS								20		
Thesis consultation I.	sem/Pract					X		10		
Thesis consultation II.	sem/Pract						X	10		
5. PROFESSIONAL PRACTICE (8 weeks)								0		
TOTAL CREDITS								180		