Interdisciplinary studies: Control, Electronic and Information Engineering

Specialization program: Data Science

#	COURSE	HOURS						Sem.1						ECTS	Sem.2						ECTS	Sem.3						ECTS
		Σ	Lec	T	Lab	P	S	Lec	T	Lab	P	S			Lec	T	Lab	P	S			Lec	T	Lab	P	S		
1	Advanced optimization methods	60	30	0	30	0	0	2		2				4														
2	Markov Models	60	30	0	30	0	0	2						2			2				2							
3	Classifiers	60	30	0	30	0	0	2		2				3														
4	Programming in R and Python	60	30	0	30	0	0	2		2			E	4														
5	Scientific Computing	30	15	0	0	15	0	1			1		E	3														
6	Cloud Platforms	30	15	0	15	0	0	1		1			E	3														
7	Evolutionary Algorithms	30	15	0	15	0	0	1		1				3														
8	Formal Languages	30	15	0	15	0	0	1		1				2														
9	Fuzzy Data Analysis	30	15	0	0	15	0	1			1			2														
10	Foreign Language	60	0	60	0	0	0		2					2		2					2							
11	Visual Data	60	30	0	15	15	0								2		1	1			3							
12	Statistical Learning	45	30	0	30	0	15								2		2			E	4							
13	Bayesian Data Analysis	30	15	0	15	0	0								1		1			E	3							
14	Knowledge Discovery	30	15	0	15	0	0								1		1			E	3							
15	Models With Hidden Data	30	15	0	15	0	0								1		1				2							
16	Hadoop Ecosystem	30	15	0	15	0	0								1		1				2							
17	Data Visualization	30	15	0	15	0	0								1		1				2							
18	Data Mining in Practice	30	15	0	15	0	0								1		1				2							
19	Optional course 1	60	30	0	30	0	0								1		1				2	1		1				2
20	Optional course 2	120	60	0	60	0	0								2		2				3	2		2				3
21	Project Managements (HES)	45	15	0	0	30	0															1			2			3
22	Master Thesis Seminar	30	0	0	0	0	30																			2		2
23	Master Thesis	0	0	0	0	0	0																				E	20
24	Social sciences (HES), optional course	15	15	0	0	0	0	1						2														
		1035	465	60	390	75	45	14	2	9	2	0	3	30	13	2	14	1	0	3	30	4	0	3	2	2	1	30
		Weekly instruction hours						27							30							11						
		Number of exams						2							1							1						
		Number of non-exam crediting						6							7							5						

Selected optional courses

Humanities/Economic/Social courses

Fig. 3. CEIE Data Science specialization study program

Lec – Lecture, T – Tutorial Exercises, Lab – laboratory classes, P- Project, S – Seminar