

Master's Programme Curriculum
Field of study: **Econometrics and Informatics**
specialisation: Data Science
Academic year 2017/2018

20.04.2017

No	Course code	Course name	Course type		year				Total Hours/ECTS Credits	Form of credit
					I		II			
					1	2	3	4		
A General Courses										
1	2400-FIM1POWI	Intellectual Property Protection	training	hours	6				6	Credit
				ECTS	0,5				0,5	
2	0000-BHP-OG	Occupational Safety and Health (OSH)	training	hours	4				4	Credit
				ECTS	0,5				0,5	
3		OGUN (elective from University offer, humanistic profile)	general classes	hours		30	30		60	Credit
				ECTS		3	3		6	
<i>Total of hours in the group of courses</i>					10	30	30	0	70	
<i>ECTS of credits in the group of courses</i>					1	3	3	0	7	
B Core courses										
4	2400-DS1AMI	Applied Microeconomics	lecture	hours	45				45	written exam
				ECTS	5				5	
5	2400-DS1AMA	Applied Macroeconomics	lecture	hours		45			45	written exam
				ECTS		5			5	
6	2400-DS1AE	Advanced Econometrics	lecture lab	hours		30			60	written exam
				ECTS		6			6	
7	2400-DS2AF	Applied Finance	lecture	hours			45		45	written exam
				ECTS			5		5	
<i>Total of hours in the group of courses</i>					45	105	45	0	195	
<i>ECTS of credits in the group of courses</i>					5	11	5	0	21	
C Field -of study courses										
8	2400-DS1R	R: intro / data cleaning and imputation R / basics of visualisation	lab	hours	30				30	written exam
				ECTS	3				3	
9	2400-DS1SQL	Python and SQL: intro / SQL platforms	lab	hours	30				30	Credit
				ECTS	4				4	
10	2400-DS1AL	Algorithmics	lecture	hours	30				30	written exam
				ECTS	6				6	
11	2400-DS1ST	Statistics and Exploratory Data Analysis	lab	hours	30				30	Credit
				ECTS	5				5	
12	2400-DS1IDS	Introduction to Data Science	lecture	hours	15				15	written exam
				ECTS	1				1	
13	2400-DS1UL	Unsupervised Learning	lab	hours	30				30	Credit
				ECTS	3				3	
14	2400-DS1WSMS	Webscrapping and Social Media Scrapping	lab	hours		15			15	Credit
				ECTS		3			3	
15	2400-DS1APR	Advanced Programming in R	lab	hours		15			15	written exam
				ECTS		5			5	
16	2400-DS1ML1	Machine Learning 1: classification methods	lab	hours		30			30	Credit
				ECTS		5			5	
17	2400-DS2AV	Advanced Visualisation in R	lab	hours			30		30	Credit
				ECTS			6		6	
18	2400-DS2TMS	Text Mining and Social Media Mining	lab	hours			30		30	written exam
				ECTS			4		4	
19	2400-DS2BDA	Big Data Analytics	lab	hours			15		15	Credit
				ECTS			2		2	
20	2400-DS2ML2	Machine Learning 2: predictive models, deep learning, neuron network	lab	hours			30		30	Credit
				ECTS			4		4	
21	2400-DS2RR	Reproducible Research	lab	hours				30	30	written exam
				ECTS				4	4	
22	2400-DS2WWEF	Elective course (economics or finance)	discussion in lab	hours				30	30	Credit
				ECTS				4	4	
23	2400-DS2WWIT	Elective course (IT tools)	lab	hours				30	30	Credit
				ECTS				3	3	
24	2400-DS2WWQM	Elective course (quantitative methods)	discussion in lab	hours				60	60	Credit
				ECTS				6	6	
<i>Total of hours in the group of courses</i>					hours	165	60	105	150	480
<i>ECTS of credits in the group of courses</i>					ECTS	22	13	16	17	68

D Soft skills courses										
25	2400-DS1CA	Communication and Autopresentation	discussion	hours	30				30	written exam
				ECTS	2				2	
26	2400-DS2NEG	Negotiations	discussion	hours			30		30	written exam
				ECTS			3		3	
27	2400-DS2UB	Understanding Business	lecture	hours				30	30	Credit
				ECTS				2	2	
<i>Total of hours in the group of courses</i>				hours	30	0	30	30	90	
<i>ECTS of credits in the group of courses</i>				ECTS	2	0	3	2	7	
D Master Thesis Seminar										
28	2400-SU2TS....	Master Thesis Seminar	seminar	hours		30	30	30	90	Credit
				ECTS		3	3	3	9	
29		Preparation of the thesis for the diploma examination	own work	hours		0	0	0	0	
				ECTS				8	8	
<i>Total of hours in the group of courses</i>				hours	0	30	30	30	90	
<i>ECTS of credits in the group of courses</i>				ECTS	0	3	3	11	17	
Total of hours				hours	250	225	240	210	925	
TOTAL of ECTS				ECTS	30	30	30	30	120	

- Electives:
- 1) Spatial data in R
 - 2) Interactive applications in Shiny package
 - 3) Credit Risk - methods of scorecards development in R
 - 4) Webb applications for Data Science
 - 5) Time Series in Data Science