

1.	Field of study	Computer Science
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2021/2022 (summer term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Scripting languages in data analysis

Module code: W4-INA-S2-20-F-JSwAD

1. Number of the ECTS credits: 4

2. Learning outcomes of the module			
code	description	learning outcomes of the programme	level of competence (scale 1-5)
M_001	The student knows the use and implementation of algorithms.	K_W02 K_W09	1 1
M_002	The student knows how to analyse data, is familiar with the algorithms used in data analysis, and knows how to interpret the results.	K_W04 K_W09	1 1
M_003	The student can select and implement the algorithm for data analysis.	K_U08 K_U09 K_U10	1 1 1
M_004	The student can interpret the result of data analysis and present the results of data analysis motivate the techniques used.	K_U03 K_U04 K_U10	2 2 1
M_005	The student can develop a scheme of data handling, aimed at their correct analysis.	K_U01 K_U02 K_U03	1 1 1
M_006	The student can implement an automated data analysis system, working individually or in a team.	K_U02 K_U09 K_U10	1 2 3
M_007	The student is aware of the impact of algorithms on the results of data analysis.	K_K01	1

3. Module description

Description	The module aims at introducing the students with advanced data analysis possibilities with elements of automation using scripting languages such as Python or R.
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
W_001	Reports	The students prepare written reports within a specified period as verification of skills gained during problem-solving.	M_001, M_002, M_003, M_004, M_007
W_002	Project	The students develop an individual or group project with documentation of the data analysis system.	M_001, M_002, M_003, M_005, M_006, M_007

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
Z_001	lecture	The lectures are conducted with multimedia tools and discuss issues related to the analysis and automation of data analysis in scripting languages.	15	The lectures prepare the students to perform laboratory exercises. They are the practical presentation of issues discussed during the lectures.	20	W_002
Z_002	laboratory classes	The classes prepare the students to perform laboratory exercises. They are the practical presentation of issues discussed during the lectures.	30	The students prepare for the laboratory classes and passing the lecture test. The students prepare for completing laboratory tasks and the final project	55	W_001, W_002