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: Data analysis in business

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

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 average measures, the volatility measures and the asymmetry measures and uses them to perform a descriptive analysis of business data. The student knows the issues of interdependence analysis, correlation and regression analysis to discover business data relationships.	K_W01 K_W09	1 1
M_002	The student has knowledge about classification and regression trees, neural networks, the fundamental and technical analysis used to analyse business and financial data.	K_W09	1
M_003	They make an initial assessment of business data, present it appropriately, and select the model or models suitable for analysis. They can compare the obtained results and draw conclusions based on them.	K_K04 K_U01 K_U08	1 1 1
M_004	They can use the selected program for business data analysis	K_U09	1

3. Module description

Description	Data analysis in business aims at developing statistical population characteristics and use data mining models for business data analysis. The course's goal is also to improve knowledge of classic and modern data analysis techniques on the example of financial data. The list of the topics comprises: 1. Gathering, development, and graphic presentation of data. 2. Elements of business data descriptive analysis. 3. Analysis of correlation, dependence and regression. 4. Application of classification and regression trees for business data analysis. 5. Application of technical and fundamental analysis of financial data. 6. Application of neural networks for business data analysis.
Prerequisites	

4. Assessment of the learning outcomes of the module			
code	**type**	**description**	**learning outcomes of the module**
W_001	Examination reports	The students prepare written reports and present them orally at a specified time. The presentations are to verify the skills acquired during the problems' solving stage.	M_001, M_002, M_003, M_004
W_002	Test	The students write the test designed to verify their knowledge and skills in solving specific tasks.	M_001, M_002, M_003

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 present the concepts and facts from the curriculum listed in the module and illustrate them with many examples.	15	The student must self-study the content from the lectures and the literature listed in the course syllabus.	15	W_002
Z_002	laboratory classes	The students perform exercises with the teacher's help during the laboratory classes, which develops the skills listed in the module's set of learning outcomes.	30	The students self-improve the skills listed in the module's set of learning outcomes.	60	W_001, W_002