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

3. Module description

Description	Data analysis in business aims at developing skills of using statistical population characteristics and using data mining models for business data analysis. The goal of the course is also to improve knowledge of classic and modern data analysis techniques on the example of financial data. Topics: 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 to 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	Preparation of written reports and their oral presentation at a specified time as a verification of acquired skills during problems' solving.	M_001, M_002, M_003, M_004
W_002	Test	Verification of knowledge and skills based on the analysis of tasks solutions during written test.	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	Lecture presenting concepts and facts from the scope of program contents which are listed in the module and illustrating them with numerous examples	15	Self-study of lectures and literature	15	W_002
Z_002	laboratory classes	Laboratory, during which students perform exercises with the help of the teacher, which develop the skills listed in the set of learning outcomes of the module	30	Self-improvement of skills listed in the set of learning outcomes of the module	60	W_001, W_002