1.	**Field of study**	**Computer Science**
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2019/2020 (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: 08-IN-ISI-S2-ADwB

1. Number of the ECTS credits: 2

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
ADwB -U_3	Student can obtain information from literature, databases and other properly selected sources, can integrate the information obtained, interpret them, draw conclusions and formulate and justify the opinions.	K_U01	2
ADwB -U_4	Student can provide a mathematical description of a selected technical indicator for data analysis.	K_U07	1
ADwB -U_5	Student can use the available programs to perform data exploration.	K_U17 K_U21	4 1
ADwB -W_1	Student has knowledge of average measure, measure of variability and measure of asymmetry to perform descriptive analysis of business data. The student uses issues of interdependence analysis and correlation and regression analyses to study dependencies occurring in business data.	K_W03	2
ADwB -W_2	Student is knowledgeable about preliminary data preparation and application of classifier k nearest neighbors, naive Bayesian classifier, classifier classification and regression classifier, neural networks, basket analysis and data analysis sequences.	K_W17	4

3. Module description

Description	Analysis of business data aims at developing skills of using statistical population characteristics and constructing and using data mining for data analysis. The goal of the subject is also perfecting the knowledge of classic and modern techniques of data analysis on the example of financial data. The following topics are planned to realize: 1. Gathering, development and graphic presentation of data. 2. Elements of business data descriptive analysis. 3. Analysis of phenomena interdependence, correlation and regression. 4. Use of technical and fundamental analyses for financial data analysis. 5. Use of issues connected with Fibonacci and Pivot levels.

	6. Use of neural networks for business data analysis. Aim of the classes is educating students' skills of using the most important methods used in data mining.
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
ADwB _w_1	Continuous assessment	Verifying according to answers to the asked questions concerning lectured topics and knowledge of homeworks solutions	ADwB -U_3, ADwB -U_4, ADwB -U_5, ADwB -W_1, ADwB -W_2
ADwB _w_2	Written tests	Verification of skills on the basis of solved tasks analysis during written tests with use of computer.	ADwB -U_3, ADwB -U_4, ADwB -U_5, ADwB -W_1, ADwB -W_2
ADwB _w_3	Written elaboration	Skills verification through written elaboration of the material connected with performing data set analysis and interpretation of obtained results	ADwB -U_3, ADwB -U_4, ADwB -U_5, ADwB -W_1, ADwB -W_2

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	
ADwB _fs_1	lecture	Lecture presenting notions and facts from the range of program content mentioned in module description and illustrating the content with numerous examples	10	Independent study of lectures and ancillary literature indicated in the syllabus	10	ADwB _w_1, ADwB _w_2, ADwB _w_3
ADwB _fs_2	laboratory classes	A laboratory where students perform exercises with skill-building exercises listed in the module learning outcomes.	20	Self-improvement skills listed in the effects set	20	ADwB _w_1, ADwB _w_2, ADwB _w_3