1.	Field of study	Computer Science
2.	Academic year of entry	2016/2017 (summer term)
3.	Level of qualifications/degree	second-cycle studies
4.	Degree profile	general academic
5.	Mode of study	full-time

Module: Selected methods of data mining

Module code: 08-IN-IIN-S2-WMED

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)
WMED -U_7	Using analysis of variance can (test F) asses data community on the basis of sample distribution.	K_2_A_I_U01 K_2_A_I_U04 K_2_A_I_U05 K_2_A_I_U07 K_2_A_I_U08	1 1 1 3 1
WMED -U_8	Can reduce data space dimension.	K_2_A_I_U07 K_2_A_I_U13 K_2_A_I_U17 K_2_A_I_U18	3 1 3 2
WMED -W_1	Has basic knowledge in the field of spectrum analysis. Knows assumptions of direct and inverse discreet Fourier transform.	K_2_A_I_W01 K_2_A_I_W03	3 3
WMED -W_2	Has basic knowledge in the field of DCT, DST, Walsh and Haar transforms.	K_2_A_I_W08 K_2_A_I_W17 K_2_A_I_W18	2 3 3
WMED -W_3	Has basic knowledge concerning application rules of the specific transformations in engineering practice.	K_2_A_I_W17	1
WMED -W_4	Has knowledge concerning principles of two dimensional transformations use taking into account uses in image processing. Knows basic image morphological transformations.	K_2_A_I_W01 K_2_A_I_W15 K_2_A_I_W17	2 3 1

WMED -W_5	Knows principles of lossy and lossless image compression.	K_2_A_I_W01 K_2_A_I_W03 K_2_A_I_W17	1 1 1
WMED -W_6	Knows basics of Fishera and PCA statistical inference.	K_2_A_I_W01 K_2_A_I_W03	1 1
WMED-K_10	Can present opinions and conclusions concerning theoretical and practical aspects of image compression and statistic inference.	K_2_A_I_K03 K_2_A_I_K06	1 1
WMED-K_9	Can execute a group task concerning morphological operations on digital image in order to bring out its qualities in a specific program. Can lossy and lossless compress images realizing the task in the fixed time.	K_2_A_I_K01 K_2_A_I_K03 K_2_A_I_K06	1 1 1

3. Module description	
Description	Aim of classes in this module is preparing the students to solve tasks connected with the issue of image processing and methods of statistic inference. As a result, it leads to deepening of knowledge in the field of mathematical foundations of image processing and analysis of multidimensional data.
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
WMED -w_1	Credit	Solving tasks of content, one after each section discussed during lecture.	WMED -W_1, WMED -W_2, WMED -W_3, WMED -W_4, WMED -W_5, WMED -W_6
WMED -w_2	Control tests	Tests and quizzes connected with the current topic of laboratory class and checking theoretical knowledge of the lecture.	WMED -U_7, WMED -U_8
WMED -w_3	Programming works in MATLAB environment	Documenting, elaborating and verifying results of tasks solved during laboratory classes.	WMED -U_7, WMED -U_8, WMED-K_10, WMED-K_9

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	
WMED _fs_1	lecture	Educational content presented in traditional form and with use of audiovisual aids.	15	Familiarizing with lecture content and individual verification of laboratory class of programming in MATLAB environment solutions.	5	WMED -w_1
WMED _fs_2	laboratory classes	Detailed checking of preparation to solve	30	Solving tasks of subsequent subjects	10	

		tasks taking into account methodology of proceedings. Testing correctness of solutions. Presenting principles of project documenting.		together with analysis of the already existing solutions. Comparing obtained results in various groups. Optimization of the program code. Presenting solutions together with analysis of the already existing ones. Evaluation of the group work.		WMED -w_2, WMED -w_3