

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Problem workshop		Code 1010842121010840111
Field of study Electronics and Telecommunications	Profile of study (general academic, practical) general academic	Year /Semester 1 / 2
Elective path/specialty Multimedia and Consumer Electronics	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 2		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) from field
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: dr inż. Sławomir Maćkowiak email: slawomir.mackowiak@multimedia.edu.pl tel. +48 0616653890 Wydział Elektroniki i Telekomunikacji ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	He has ordered , mathematical underpinnings knowledge of the acquisition , human perception , quality assessment , processing, digital representation, compression and transmission of video signals , speech and audio for use in multimedia systems It has a basic knowledge of the development trends of the issues related to the processing and image processing
2	Skills	He can freely communicate in English, able to speak in English for professional purposes, can benefit from understanding the literature in English
3	Social competencies	1 He knows the limitations of their knowledge and skills, understands the need for ongoing education. [K1_K01] 2 He can pursue collaborative projects. [K1_K02]
Assumptions and objectives of the course: Troubleshooting of substantive areas: content analysis of images. Removing the noisy images, distortion artifacts. Filtering the image, edge detection, segmentation of objects (methods of sowing area), classification of data (linear and nonlinear methods, LDA, PCA, neural networks), basic techniques for object detection and tracking of moving objects. Methods HOG, SURF, SIFT. Expanding knowledge of stereoscopy, 3D video systems, advanced compression techniques. Treatment of non-linear multimedia content, image reconstruction and restaurant, technology acquisition and presentation of stereoscopic images.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Has in-depth knowledge of construction and operation of communication systems used to provide multimedia services. - [K2_W01]		
Skills: 1. Is able to analyze the operation of multimedia systems. Is able to solve problems related to multimedia systems, also problems including a research component. - [K2_U03]		
Social competencies: 1. Is aware of the limitations of his/her current knowledge and skills; is committed to lifelong learning. - [K2_K04] 2. Is aware of the necessity to approach solving technical problems with responsibility and professionalism. - [K2_K05]		
Assessment methods of study outcomes		

1 Reports (Reports) of topical issues.		
2 Checking the activity in the classroom		
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Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Lectures and practical classes	15	
2. Preparation for the classes and writing a final report	15	
3. Literature study	15	
4. Preparation for exam	15	
5. consultations with laboratory project	0	
Student's workload		
Source of workload	hours	ECTS
Total workload	50	1
Contact hours	30	1
Practical activities	40	1