GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Multimedia Technology, PG_00047919		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	4	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Multimedia Systems -> Faculty of Electronics Telecommunications and Informatics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Piotr Odya	
	Teachers	dr inż. Piotr Odya	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	0.0	45

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	45	3.0	27.0	75

Subject objectives

The aim is to familiarize students with the multimedia data procesing and transmission.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W03] knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum	The student can propose solutions for multimodal interfaces. The student describes stages of image, sound and video compression.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
1. Introduction. History of multimedia communication development.
2. Multimedia content types and elements.
3. Computer graphics fundamentals raster and vector images
4. Audio, video, and multimedia content formats
5. Fundamentals of audio, image & video compression
6. Multimedia transport protocols. Multimedia services.
7. Multimedia content distribution.
8. Multimedia studio and broadcasting center.
9. Multimedia databases. Querying, navigating, browsing of multimedia database content
10. Image rendering
11. Animation of computer graphic
12. Multimodal interfaces
13. Stereoscopy, holography, Virtual Reality
14. Future development trends.
15. Lecture recapitulation and students' progress checking

Prerequisites and co-requisites

No requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	51.0%	50.0%
Practical exercise	51.0%	50.0%

Recommended reading	Basic literature	Alicja Wieczorkowska: Multimedia. Podstawy teoretyczne i zastosowania praktyczne., PJWSTK, ISBN: 978-83-89244-67-3, 2008, Kategorie: Informatyka, Multimedia, 336 stron Anna Korzyńska, Małgorzata Przytulska: Przetwarzanie obrazów. Ćwiczenia., PJWSTK, 2006, ISBN: 978-83-89244-37-6, Kategorie: Informatyka, Multimedia, Zawiera CD, 110 stron Andrzej Czyżewski: Dźwięk cyfrowy. Wybrane zagadnienia teoretyczne, technologia, zastosowania., Exit, 2001, ISBN: 978-83-87674-08-3, Kategorie: Informatyka, Multimedia, Dźwięk cyfrowy, 552 strony, format B5 Jean-Philippe Thiran, Ferran Marques, Harve Boulard, Multimodal Signal Processing, Academic Press, 2010. Nigel Chapman, Jenny Chapman, Digital Multimedia, Wiley, 2009. Parag Havaldar, Gerard Medioni, Multimedia Systems, Course Technology, 2010.
	Supplementary literature	No requirements
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Practical activites within the subject	Not applicable	

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