GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Recording and Compression of Audio-video Signals, PG_00048138		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group 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	4	Language of instruction	Polish
Semester of study	7	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Multimedia Systems -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Piotr Odya	
	Teachers	dr inż. Piotr Odya	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	15.0	0.0	0.0	30

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	30	3.0	42.0	75

Subject objectives

Familiarize student with the issues of video and audio recording and the use of typical studio equipment.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W35] Knows the concepts of the technique of signal transmission, operation of telecommunications networks and multimedia services and the rules for providing them	Student chooses the type of studio devices interface depending on the needs.	[SW1] Assessment of factual knowledge
[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 chooses the type of studio equipment for voice recordings. The student chooses the type of video equipment for video recording.	[SW1] Assessment of factual knowledge
[K6_W05] Knows and understands, to an advanced extent, methods of supporting processes and functions, specific to the field of study	The student uses computer tools for editing sound and movie.	[SW1] Assessment of factual knowledge
[K6_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions	Student prepares a studio for sound and / or video recordings.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_U07] can apply methods of process and function support, specific to the field of study	Student configures audio and video recording equipment depending on the needs.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment

Subject contents	1. Introduction 2. Fundamentals of the digital signal recording techniques 3. Classification of the basic methods for sound and image recording and processing 4. Magnetic recording 5. Magnetooptical recording 6. Overview of video converters 7. Lenses, camcorders and digital photo-cameras 8. Video capture cards constructions and types 9. Video capture cards constructions and types 10. Studio audio devices (tape recorders, mix-consoles, hard disc recorders, effects and dynamics processors, synthetizers) 11. Studio video devices (VCRs, video consoles, hard disc video recorders) 12. Synchronization of audio-video devices 13. Audio and video formats 14. Test
Prerequisites and co-requisites	No requirements
Assessment methods and criteria	

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

Recommended reading	Basic literature	Arnold J., Frater M., Pickering M., Digital Television, Wiley, 2007. Brinkman R., The Art nad Science of Digital Compositing, Morgan Kaufman, 2008. Chapman N., Chapman J., Digital Multimedia, Wiley, 2009. Davis G., Jones R., Sound Reinforcement Handbook, Hal Leonard, 1989. Halsall F., Multimedia Communications, Addison-Wesley, 2001. Havaldar P., Medioni G., Multimedia Systems, Course Technology, 2010. Holman T., Sound for Digital Video, Focal Press, 2005. James J., Digital Intermediates for Film and Video, Focal Press, 2006. Watkinson J., The Art Digital Video, Focal Press, 2000.
	Supplementary literature	No requirements
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	