



Subject card

Subject name and code	Recording Technology I, PG_00048319						
Field of study	Electronics and Telecommunications						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group		Optional subject group Specialty 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department Of Multimedia Systems -> Faculty Of Electronics Telecommunications And Informatics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Bożena Kostek				
	Teachers		prof. dr hab. inż. Bożena Kostek dr inż. Karolina Marciniuk dr inż. Piotr Ody				
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		4.0		16.0	50
Subject objectives	The aim of the course is to familiarize students with the basic issues of recording technology.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W10] knows and understands, to an increased extent, the basic processes occurring in the life cycle of equipment, objects and technical systems, as well as methods of supporting processes and functions, specific to the field of study	Student knows two-channel stereo microphone technique characteristics applicable to instrumental recording. Student is able to choose two-channel stereo microphone techniques for instrumental recording.	[SW1] Assessment of factual knowledge
	[K7_U03] can design, according to required specifications, and make a complex device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment	Student can choose the acoustic climate adequate for recordings. Student is able to work in a professional studio environment.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	[K7_W03] knows and understands, to an increased 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 knows issues related to spatial hearing which are the basis of two-channel stereo microphone techniques. Student knows issues related to recordings and studio technology.	[SW1] Assessment of factual knowledge
	[K7_U07] can apply advanced methods of process and function support, specific to the field of study	The student is able to prepare a professional audio-video recording. Student knows issues related to preparation of verbal recordings, such as reportage, interview, advertising, street probe, etc.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools

Subject contents	<u>Lecture</u> 1. Introduction to Sound Recording Technology 2. Fundamentals, references 3. Typical problems of sound production 4. Broadcast Transmission, Broadcasting Systems (DAB, DSR Systems) 5. Historical Review of Sound Recording Technology 6. Preparing for Recording, Recording Styles 7. Acoustical Perspective, Critical distance 8. Microphones setup 9. Recording Environment, Acoustical Climate, Dynamics. 10. Frequency Correction. Reverb and delay. 11. Microphone Types, Characteristics and Directional Patterns 12. Mixing, Mastering. 13. Requirements Regarding Recording 14. Requirements Regarding Radio Drama Recording 15. Requirements Regarding Interview Recording 16. Source Polar Patterns 17. Musical Instrument Loudness, Musical Instrument Polar Patterns 18. Recording of Music 19. Phantom Image Localization. Control Room. 20. Stereo Listening Environment. Surround Listening Environment. 21. Microphone Techniques 23. Multi-Microphone Arrays 24. Quality Criteria Regarding Stereo Microphone Techniques 25. Final Exam <u>Laboratory</u> 1. Introduction 2. Preparation for a radio drama 3. Radio drama recording 4. Preparation for on-location recording 5. On-location recording 6. Preparation for an advanced video recording 7. Advanced video recording 8. CD/DVD authoring 9. Students' productions reviewing		
	Prerequisites and co-requisites		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Practical exercise	50.0%	50.0%
	Midterm colloquium	50.0%	50.0%
Recommended reading	Basic literature	K. Blair Benson, Sound Engineering Handbook, McGraw Hill, New York 1988. J. Eargle, The Microphone Handbook, Elar Publishing, Plainview, NY, USA, 1982. K.C. Pohlmann, Principles of Digital Audio, H.W. Sams & Co. Indianapolis, IN, USA, 1989. Streicher R., Everest A. F.: The New Stereo Soundbook, AES, New York, 1999. H.D. Miles, Audio Production Techniques for Video, H.W. Sams & Co. Indianapolis, IN, USA, 1989. P. Newell, Recording Studio Design, Focal Press, Amsterdam, 2008. B. Huntig, Multitrack Recording for Musicians, GPI Publications, Cupertino, CA, USA, 1991. J. James, Digital Intermediates for Film and Video, Focal Press, Elsevier, 2006. J. Rose, Audio Postproduction for Digital Video, CMPBooks, San Francisco, 2002.	
	Supplementary literature	No requirements	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	according to the lecture topics.		
Work placement	Not applicable		

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