



Subject card

Subject name and code	Recording Technology I, PG_00048319						
Field of study	Electronics and Telecommunications						
Date of commencement of studies	February 2027	Academic year of realisation of subject			2027/2028		
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 -> Faculties of Gdańsk University of Technology						
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	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_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.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[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_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.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[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

Subject contents	<p>Course content – lecture</p> <p><u>Lecture</u></p> <p>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</p> <p><u>Laboratory</u></p> <p>1. Introduction</p> <p>2. Preparation for a radio drama</p> <p>3. Radio drama recording</p> <p>4. Preparation for on-location recording</p> <p>5. On-location recording</p> <p>6. Preparation for an advanced video recording</p> <p>7. Advanced video recording</p> <p>8. CD/DVD authoring</p> <p>9. Students' productions reviewing</p>											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="448 1447 794 1480">Subject passing criteria</th> <th data-bbox="794 1447 1141 1480">Passing threshold</th> <th data-bbox="1141 1447 1477 1480">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1480 794 1514">Midterm colloquium</td> <td data-bbox="794 1480 1141 1514">50.0%</td> <td data-bbox="1141 1480 1477 1514">50.0%</td> </tr> <tr> <td data-bbox="448 1514 794 1547">Practical exercise</td> <td data-bbox="794 1514 1141 1547">50.0%</td> <td data-bbox="1141 1514 1477 1547">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Midterm colloquium	50.0%	50.0%	Practical exercise	50.0%	50.0%
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Practical exercise	50.0%	50.0%										
Recommended reading	<p>Basic literature</p> <p>Supplementary literature</p> <p>eResources addresses</p>	<p>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.</p> <p>No requirements</p>										
Example issues/ example questions/ tasks being completed	according to the lecture topics.											
Practical activities within the subject	Not applicable											

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