GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Recording Technology I, PG_00048319		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2022/2023
Education level	second-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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Multimedia Systems -> Faculty of Electronics, Telecommunications and Informatics		
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 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	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_W05] Knows and understands, to an increased extent, methods of process and function support, specific to the field of study.	Student knows two-channel stereo microphone techqniue characteristics applicable to instrumental recording. Student is able to choose two-channel stereo microphone techqniues for instrumental recording.	[SW1] Assessment of factual knowledge
	[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

<table>
<tr><td>Subject contents</td><td><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</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Practical exercise</td><td>50.0%</td><td>50.0%</td></tr>
<tr><td>Midterm colloquium</td><td>50.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>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.</td></tr>
<tr><td>Supplementary literature</td><td>No requirements</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>according to the lecture topics.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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