GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Sound Reinforcement - Laboratory, PG_00048329		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	February 2024	Academic year of realisation of subject	2024/2025
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	2	ECTS credits	1.0
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	dr inż. Piotr Odya	
	Teachers	dr inż. Piotr Odya dr inż. Karolina Marciniuk mgr inż. Wanda Ludwikowska	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15	2.0	8.0	25

Subject objectives	The aim of the course is to familiarize students with the room acoustics and sound reinforcement technology and knowledge transfer in the acoustic CADs.

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	Student designs sound reinforcement system using acoustic CAD (CATT-Acoustic and ODEON systems).	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools
[K7_U08] while identifying and formulating engineering tasks specifications and solving these tasks, can:n- apply analytical, simulation and experimental methods,n- notice their systemic and non-technical aspects,n- make a preliminary economic assessment of suggested solutions and engineering workn	Student uses acoustic CAD (CATT-Acoustic and ODEON systems) to design and simulate acoustics of rooms and sound reinforcement systems. The student is able to make an economic and technical analysis of choosed solutions in the field of acoustics and sound reinforcement.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
[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 designs rooms acoustics and sound reinforcement systems using acoustic CADs (CATT-Acoustic and ODEON systems).	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K7_U02] can perform tasks related to the field of study as well as formulate and solve problems applying recent knowledge of physics and other areas of science	Student designs acoustic interiors (eg. radio studios, auditoria, musical theaters, churches, etc.) The student is able to assess the quality of acoustic interiors.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment

Subject contents

1. Introduction
2. Acoustical design – "Odeon"
3. Acoustical design – "CATT-Acoustic"
4. Room sound system design
5. Speech intelligibility testing
6. Measurement of room acoustic parameters
7. Real reinforcement system - technical tour
8. Credit for a course

Prerequisites and co-requisites

No requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Practical exercise	51.0%	100.0%

Recommended reading

Basic literature	G. Davis, R. Jones, Sound Reinforcement Handbook, YAMAHA, Hal Leonard Publ. Corp., 1990. K. Blair Benson, Sound Engineering Handbook, McGraw Hill, New York, 1988; L.L. Beranek, Concert and Opera Halls. How they Sound, Acoust. Soc. Amer., (1996). M. Tohyama, A. Suzuki, Reverberation Time in an Almost-Two-Dimensional Diffuse Field, J. Sound Vib., 111, 3, 391 -398 (1986). R. Glasgal, Ambiophonics: The Synthesis of Concert Hall Sound Fields in Home, Preprint No. 4113, 99th AES Convention, 6-9 October, New York 1995. T. Hallman, New Factors in Sound for Cinema and Television, Journal AES, 39:7/8, p. 529, 1991. Yamaha, Sound Reinforcement Application Guide, 2007 (http:// www.yamaha.com/yamahavgn/Documents/News/ 2007_SR_APP_guide.pdf)
Supplementary literature	No requirements
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement

Not applicable