



Subject card

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| Subject name and code | Sound Reinforcement - Laboratory, PG_00048329 | | | | | | |
| Field of study | Electronics and Telecommunications | | | | | | |
| Date of commencement of studies | February 2023 | | Academic year of realisation of subject | | 2023/2024 | | |
| 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 Ody | | | | |
| | Teachers | | dr inż. Piotr Ody 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. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [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. | [SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools |
| | [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). | [SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task |
| | [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. | [SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task |
| | [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). | [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task |
| 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: Technika nagłaśniania - laboratorium - 2023 - Moodle ID: 28868 https://enauclanie.pg.edu.pl/moodle/course/view.php?id=28868 | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |