



Subject card

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|---|---|--|--|-------------------------------------|--|------------|-----|
| Subject name and code | Telecommunication Signals - laboratory, PG_00048137 | | | | | | |
| Field of study | Electronics and Telecommunications | | | | | | |
| Date of commencement of studies | October 2022 | Academic year of realisation of subject | | | 2024/2025 | | |
| Education level | first-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 | 3 | Language of instruction | | | Polish | | |
| Semester of study | 6 | ECTS credits | | | 1.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Department of Radiocommunication Systems and Networks -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr hab. inż. Jarosław Sadowski | | | | |
| | Teachers | | dr hab. inż. Jarosław Sadowski | | | | |
| 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 | | 1.0 | | 9.0 | 25 |
| Subject objectives | Practical students acquaint with the characteristics of the signals that occur in the communication system. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K6_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions | | Student performs measurements of parameters of selected components from telecommunication links. | | [SU1] Assessment of task fulfilment | | |
| | [K6_W35] Knows the concepts of the technique of signal transmission, operation of telecommunications networks and multimedia services and the rules for providing them | | Student can explain principles of operation of components which are tested in laboratory. | | [SW1] Assessment of factual knowledge | | |
| | [K6_W34] Knows the characteristics of telecommunications channels, methods of securing information, modulation systems, methods of access to the channel. | | Student can explain basic parameters of communication links and their relation to theory of operation. | | [SW1] Assessment of factual knowledge | | |

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| Subject contents | 1. Investigation of Delta Modulated Signals with Syllabic Adaptation 2. Measurement of Static Characteristics of PCM Encoding. 3. Measurement of Dynamic Characteristics of PCM Encoding 4. Investigation of DPCM Encoding 5. Investigation of PSK and DPSK Signals 6. Investigation of Single Side Band Modulated Signals 7. Investigation of Balanced Mixer | | |
| Prerequisites and co-requisites | No requirements | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Practical exercise | 50.0% | 90.0% |
| | Activity | 0.0% | 10.0% |
| Recommended reading | Basic literature | Haykin S.: Systemy telekomunikacyjne, tom 1 i 2. WKiŁ 2004 r. (lub wydania wcześniejsze) | |
| | Supplementary literature | No requirements | |
| | eResources addresses | | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |