



Subject card

| | | | | | | | |
|---|--|---|-------------------------------------|------------|--|---------|-----|
| Subject name and code | Signal analysis, PG_00060218 | | | | | | |
| Field of study | Technical Physics | | | | | | |
| Date of commencement of studies | October 2023 | 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 | 2 | Language of instruction | | | Polish | | |
| Semester of study | 3 | ECTS credits | | | 3.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Institute of Physics and Applied Computer Science -> Faculty of Applied Physics and Mathematics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Bartosz Reichel | | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 0.0 | 0.0 | 0.0 | 15.0 | 45 |
| | 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 | 45 | 5.0 | | 25.0 | | 75 |
| Subject objectives | Introduction to signal analysis (sound, image, multidimensional signal) | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K6_W07] Has knowledge of the construction and operation of physical instruments, measurement and research equipment. | Know how the spectrum analyzer | | | [SW1] Assessment of factual knowledge | | |
| | [K6_K01] Understands the need to learn and improve professional and personal competencies. Can inspire and organize other people's learning process | Make measurements in group | | | [SK1] Assessment of group work skills | | |
| | [K6_U07] Can present basic facts within the scope of physics and other scientific disciplines in a clear manner. | Prepare a presentation | | | [SU4] Assessment of ability to use methods and tools | | |
| | [K6_W05] Has knowledge of programming methodology and techniques, and the use of selected IT tools in physics and technology. | Know how to implement FFT | | | [SW1] Assessment of factual knowledge | | |
| | [K6_U08] Can prepare written works and speeches in Polish and English, concerning detailed issues of physics and related fields, and scientific disciplines. | Prepare a presentation | | | [SU1] Assessment of task fulfilment | | |
| Subject contents | 1) Signal Definition 2) Signal Acquisition/Measurement Methods 3) Signal Analysis Methods | | | | | | |
| Prerequisites and co-requisites | none | | | | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | | | Percentage of the final grade | | |
| | Lab | 50.0% | | | 50.0% | | |
| | Test | 50.0% | | | 50.0% | | |
| Recommended reading | Basic literature | Signal Analysis: Time, Frequency, Scale, and Structure 1st Edition by Ronald L. Allen (Author), Duncan Mills (Author) | | | | | |

| | | |
|--|---|----------------------------------|
| | Supplementary literature | none |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | Types of Discrete Fourier Transforms Multiresolution Analysis Scheme Prove Shannon's Sampling Theorem | |
| Work placement | Not applicable | |

Document generated electronically. Does not require a seal or signature.