# STUDY MODULE DESCRIPTION FORM

| Name of the module/subject | Code |
|---|---|
| **Bases of electronics and the telecommunications** | **1010331421010327054** |

| Field of study | Profile of study (general academic, practical) | Year /Semester |
|---|---|---|
| **Information Engineering** | **(brak)** | **1 / 2** |
| Elective path/specialty | Subject offered in: | Course (compulsory, elective) |
| **-** | **polish** | **obligatory** |

| Cycle of study: | Form of study (full-time,part-time) |
|---|---|
| **First-cycle studies** | **full-time** |

| No. of hours | No. of credits |
|---|---|
| Lecture: **1** Classes: **-** Laboratory: **1** Project/seminars: **-** | **3** |

| Status of the course in the study program (Basic, major, other) | (university-wide, from another field) |
|---|---|
| **(brak)** | **(brak)** |

| Education areas and fields of science and art | ECTS distribution (number and %) |
|---|---|
| **technical sciences** | **3 100%** |
| **Technical sciences** | **3 100%** |

## Responsible for subject / lecturer:

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## Prerequisites in terms of knowledge, skills and social competencies:

| | | |
|---|---|---|
| 1 | **Knowledge** | Basic knowledge of mathematics, physics and electrical engineering basics. |
| 2 | **Skills** | The ability to understand and interpret knowledge conveyed in the classroom. Ability to effectively self-education in a field related to the chosen field of study. |
| 3 | **Social competencies** | Is aware of the need to broaden their competence, willingness to work together as a team. |

## Assumptions and objectives of the course:

Knowledge of basic electronic circuits and systems in telecommunications. Knowledge of methods of analysis and synthesis of telecommunications systems.

## Study outcomes and reference to the educational results for a field of study

### Knowledge:

1. Characterize the principles modeling of electronic systems and telecommunications. - [K_W02 +++, K_W03 ++]
2. Construct basic electromagnetic devices, electronics and telecommunications. - [K_W03 ++]

### Skills:

1. Apply knowledge of electrical circuit theory, electronics and telecommunications, necessary to determine the relevant parameters of electromagnetic circuits and systems. - [K_U08 ++]
2. Obtain information from the literature and the Internet, work individually, independently solve problems in the theory of analysis and modeling of electrical, electronics and telecommunications. - [K_U01 ++, K_U03 +]

### Social competencies:

1. Aware of a gravity of the teamwork and the responsibility for projects together carried out at preserving notation standards and of linguistic correctness. - [K_K04+++, K_K07++]

## Assessment methods of study outcomes

Lecture:

? assess the knowledge and skills listed on the written test of the theory of electronics and telecommunications.

Laboratory:

? to evaluate the skills to prepare the measurement circuitry and communication - skills check for each class and one test during the semester.

Get extra points for the activity in the classroom, and in particular for:

? propose to discuss additional aspects of the subject;

? the effectiveness of the application of the knowledge gained during solving the given problem;

? ability to work within a team practice performing the task detailed in the laboratory;

? subsequent to the improvement of teaching materials;

? developed aesthetic diligence reports and jobs - in the self-study.

## Course description

Basic concepts for electronic circuits and systems, and telecommunications. Standards and Regulation. Designing circuits and systems. Basic knowledge of operating systems and communications channel.

## Basic bibliography:

1. Bolkowski S. "Teoria obwodów elektrycznych", WNT, Warszawa, 1998
2. Krakowski M. "Elektrotechnika Teoretyczna. T.1", PWN, Warszawa, 1995
3. Lurch E. "Podstawy Techniki Elektronicznej", PWN Warszawa
4. Wesołowski K. "Podstawy cyfrowych systemów telekomunikacyjnych", WKŁ, 2006

## Additional bibliography:

1. Mikołajuk K., Trzaska Z. " Zbiór zadań z elektrotechniki teoretycznej", WNT, W-a, 1978
2. Chua L.O.,. Desoer C.A., Kuh E.S. "Linear and Nonlinear Circuits", McGraw-Hill Inc., 1987
3. Internet
4. Prace dyplomowe IAiII, IEEP

## Result of average student's workload

| Activity | Time (working hours) |
|---|---|
| 1. participation in lecture classes | 15 |
| 2. participation in laboratory classes | 15 |
| 3. participation in consultation concerning the lecture | 3 |
| 4. participation in consultation concerning the laboratory | 3 |
| 5. preparation for the test/exam | 24 |
| 6. test/exam | 2 |
| 7. preparing the laboratory description | 24 |

## Student's workload

| Source of workload | hours | ECTS |
|---|---|---|
| Total workload | 86 | 3 |
| Contact hours | 38 | 1 |
| Practical activities | 42 | 2 |