STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Bases of electronics and the telecommunications	**1010334511010337054**

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

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

No. of hours	No. of credits
Lecture: **8** Classes: **-** Laboratory: **16** Project/seminars: **-**	**4**

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

Education areas and fields of science and art	ECTS distribution (number and %)

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 basics of electrical engineering [PRK 4]
2	**Skills**	The ability to understand and interpret the knowledge transferred during classes. The ability to effectively self-educate in a field related to the chosen field of study. [PRK 4]
3	**Social competencies**	Is aware of the need to broaden their competences, willingness to cooperate within the team [PRK 4]

Assumptions and objectives of the course:

Getting acquainted with basic physical quantities and basic theory of electrical circuits. Getting acquainted with selected electronic and telecommunication systems used in Informatics.

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

Knowledge:

1. zna i rozumie podstawowe procesy zachodzące w cyklu życia układów elektronicznych oraz programowalnych - [K1_W03 [P6S_WG]]

Skills:

1. Potrafi zbudować, uruchomić oraz przetestować proste układy elektroniczne - [K1_U08 [P6S_UW]]
2. Potrafi pozyskiwać informacje z literatury, baz danych i innych źródeł - [K1_U01 [P6S_UW]]

Social competencies:

1. Ma świadomość ważności i rozumie pozatechniczne aspekty i skutki działalności inżyniera-informatyka i związaną z tym odpowiedzialność za podejmowane decyzje, jest gotów do dbałości o dorobek i tradycje zawodu - [K1_K02 [P6S_KR]]

Assessment methods of study outcomes

Lecture:

- evaluation of the knowledge and skills shown in a written colloquium on the theory of electrotechnics, electronics and telecommunications.

Laboratory exercises:

- assessing the ability to prepare measurements of electronic and telecommunication circuits - checking the skills in each class and 1 colloquium during the semester.

Course description

Lecture with multimedia presentation (including: drawings, photos, animations, sound, films) supplemented by examples given on the board.

Theory presented in connection with the current knowledge of students.

Program content:

History and basic concepts of electrical engineering. Electrical signals and their classification. Basic concepts of electric circuit with concentrated parameters. Basic elements and electronic systems. Mathematical models of electrical and electronic components. Basic knowledge of telecommunication systems and tracks. Transport media. Analysis of digital circuits in telecommunications.

Basic bibliography:

1. Bolkowski S. Teoria obwodów elektrycznych&#38, WNT, Warszawa, 1998
2. Krakowski M. Elektrotechnika Teoretyczna. T.1, PWN, Warszawa, 1995
3. Doległo Marian, Podstawy elektrotechniki i elektroniki, WKŁ 2016
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

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	8
2. Participation in laboratory	16
3. Participation in consultations on the lecture	2
4. Participation in consultations concerning the laboratory	4
5. Preparation for the exam	34
6. Exam	2
7. Preparation for laboratory classes, preparation of reports	36

Student's workload

Source of workload	hours	ECTS
Total workload	102	4
Contact hours	32	1
Practical activities	52	2