STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Bases of electronics and the telecommunications	**1010331521010337054**

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: **15** Classes: **-** Laboratory: **15** 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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Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	has basic knowledge resulting from the secondary school programme
2	**Skills**	is capable of carrying out tasks resulting from the curriculum of the secondary school
3	**Social competencies**	has social competences resulting from the secondary school programme

Assumptions and objectives of the course:

The aim of the course is to familiarize students with the basic laws concerning electrical and electronic circuits, principles of operation of passive and active electronic components and integrated circuits. In addition, students will be introduced to the basics of semiconductor and electronic device design.

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

Knowledge:

1. Student poses structured and theoretically founded knowledge of analog and digital electronic circuits. - [K_W03]

Skills:

1. Student is able to build, troubleshoot, and test simple simple electronic circuits. - [K_U08]

Social competencies:

1. Student is aware of the importance of the accurate completion of the project, notational standards, respect for linguistic correctness and timely submissions - [K_K07]

Assessment methods of study outcomes

Lecture: final exam.

Lab exercises: five graded tests throughout the semester.

Course description

Power supply for electronic devices: linear stabilisers, DC/DC converters, energy harvesting.
Passive and active electronic elements.
Operating amplifiers, operating amplifier circuits and analysis of circuits with operational amplifiers.
Analog character of digital systems.
Non-electric quantities' measurement and sensors.
Integrated circuits and printed circuit boards design and technology.

Basic bibliography:

1. P.Horowitz, W.Hill, Sztuka Elektroniki, wyd. 7, WKiŁ, Warszawa, 2010

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Lecture	15
2. Laboratory exercises	15
3. Consultations	2
4. Preparation for laboratories	38

Student's workload

Source of workload	hours	ECTS
Total workload	70	3
Contact hours	32	1
Practical activities	35	2