STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Basics of Electronics		**1010601241010321631**

Field of study	Profile of study (general academic, practical)	Year /Semester
Transport	**(brak)**	**2 / 4**
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: **-**	Project/seminars: **-**	**1**

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	**1 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of physics, chemistry and mathematics
2	**Skills**	Has the ability to self-educate of courses of Transport. Is able to obtain information from the literature and internet.
3	**Social competencies**	Is aware necessity to achive competences. Has a sense own work with the principles of team work. Understands need of lifelong learning.

Assumptions and objectives of the course:

Recognize principles of operation and practical consumption elements and electronic systems

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

Knowledge:

1. Has theoretically and practically application a lot of electronic elements and devices. Is able to draw of patent information - [K1A?W18, K1A?W20]
2. Has basic knowledge of properties of linear and non-linear elements, feedbacs and transmittance. - [K1A?W17, K1A?W20]

Skills:

1. Is able to analyze electronic objects and their technical solutions. Can search the catalogs and manufactures websites for ready-made components - [K1A-U10]
2. Is able to obtain information from the literature, internet, data base and other sources in Polish and English. Has the ability to self-educate using modern teaching tools. - [K1A?U01, K1A?U06]

Social competencies:

1. Has the ability evaluation of social aspects of new knowledge, and can work in team. - [K1A ? K01]
2. Is able to to define priority and understands the importance of non-technical aspects. - [K1A ? K02]

Assessment methods of study outcomes

Evaluation of knowledge and skills on a pass in fundamentals of electronics with applications and theoretical aspects.
Bonus for activity and level of perception

Course description

Linear and non-linear elements. Graphical solution of circuits. The characteristics and parameters of electronic elements. Analyse and operation electronic systems. Networks and filters. The amplifiers and generators. Photovoltaic systems.

Basic bibliography:

1. Opydo W., Elektrotechnika i elektronika dla studentów wydziałów nielektrycznych. Wyd. PP, Poznań, 2005.

2. Opydo W., Kulesza K., Twardosz G., Urządzenia elektryczne i elektroniczne. Przewodnik do ćwiczeń laboratoryjnych. Wyd. PP, Poznań, 2005.

Additional bibliography:

1. Horowitz P., Hill W., Sztuka elektroniki, Tom I i II, WKiŁ, Warszawa, 2005

2. Praca zbiorowa: Vademecum elektryka. COSiW, SEP, Warszawa, 2005

Result of average student's workload

Activity	Time (working hours)

Student's workload

Source of workload	hours	ECTS
Total workload	35	1
Contact hours	20	1
Practical activities	0	0