DESCRIPTION OF THE COURSE OF STUDY

Course code	**0613-2INF-C16-PEE**	
Name of the course in	Polish	**Podstawy elektroniki - laboratorium**
	English	**Fundamentals of Electronics Laboratory**

1. **LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES**

1.1. Field of study	Technical Physics
1.2. Mode of study	Full-time
1.3. Level of study	1st degree
1.4. Profile of study	General academic
1.5. Person/s preparing the course description	dr hab. Dariusz Banaś, prof. UJK
1.6. Contact	d.banas@ujk.edu.pl

2. **GENERAL CHARACTERISTICS OF THE COURSE OF STUDY**

2.1. Language of instruction	English
2.2. Prerequisites	-

3. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

3.1. Form of classes		laboratory
3.2. Place of classes		Courses in the UJK teaching rooms of the Faculty of Exact and Natural Science
3.3. Form of assessment		colloquium, lab report, homework
3.4. Teaching methods		
3.5. Bibliography	**Required reading**	1. Praca zbiorowa. Elektrotechnika i elektronika dla nieelektryków. Wydawnictwa Naukowo-Techniczne, wyd. szóste, Warszawa 2009 2. Praca zbiorowa. Podstawy elektroniki (tytuł oryginału: Elektronik Grundwissen), Wydawnictwo REA, Warszawa 2007
	Further reading	1. John Watson. Elektronika. Wydawnictwa Komunikacji i Łączności, wyd. trzecie, Warszawa 2006 2. Paul Horowitz, Winfield Hill. Sztuka elektroniki, tom 1 i 2, wyd. dziewiąte, Warszawa 2009

3. **OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES**

3.1. Course objectives (including form of classes)
Knowledge (lectures and laboratories) C1. To understand basic laws, principles and phenomena in the area of electrical engineering **Abilities (laboratories and project)** C2. To design and conduct experiments, as well as to analyse and interpret data

3.2. Detailed syllabus (including form of classes)
Laboratories: 1. Fundamentals of DC Circuits 2. Diodes 3. Fundamentals of AC Circuits 4. Filters 5. Resonant Circuits 6. Transistor Amplifiers

3.3. Education outcomes in the discipline		
Code	**A student, who passed the course**	**Relation to learning outcomes**
within the scope of **ABILITIES:**		
U01	understand basic laws, principles and phenomena in the area of electrical engineering	FIZT1_U01 FIZT1_U02
U02	has skills to design and conduct experiments, as well as to analyse and interpret data	FIZT1_U03 FIZT1_U04 FIZT1_U05

3.4. Methods of assessment of the intended learning outcomes

Teaching outcomes *(code)*	**Method of assessment (+/-)**																				
	Oral answer			**Project**			**Self-study**			**Group work**			**Reports**								
	Form of classes			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***		
	L	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*
U01													***X***								
U02													***X***								

3.5. Criteria of assessment of the intended learning outcomes

Form of classes	**Grade**	**Criterion of assessment**
project (P)	**3**	at least 50% and not more than 60% of the total number of available points
	3,5	more than 60% and not more than 70% of the total number of available points
	4	more than 70% and not more than 80% of the total number of available points
	4,5	more than 80% and not more than 90% of the total number of available points
	5	more than 90% of the total number of available points

4. **BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT**

Category	**Student's workload**	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/		
Participation in lectures		
Participation in laboratories/project	45	
Preparation for the exam		
Others		
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/		
Preparation for the lecture		
Preparation for the laboratories	40	
Preparation for the exam	15	
Gathering materials for the project		
Preparation of multimedia presentation		
*Others**		
TOTAL NUMBER OF HOURS	**100**	
ECTS credits for the course of study	**4**	

Accepted for execution *(date and signatures of the teachers running the course in the given academic year)*

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