

DESCRIPTION OF THE COURSE OF STUDY

Course code	0613-2INF-C25-PFZ	
Name of the course in	Polish	Pracownia fizyczna
	English	Physics Laboratory

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

1.1. Field of study	Computer Science
1.2. Mode of study	Full-time
1.3. Level of study	Undergraduate engineering study
1.4. Profile of study	General academic
1.5. Person/s preparing the course description	dr Małgorzata Wysocka-Kunisz
1.6. Contact	malgorzata.wysocka-kunisz@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites	knowledge of the basics of physics and mathematical analysis and statistics

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	Laboratories	
3.2. Place of classes	Courses in the UJK teaching rooms of the Faculty of Exact and Natural Science	
3.3. Form of assessment	credit with grade (laboratories)	
3.4. Teaching methods	laboratory work - students' experiences	
3.5. Bibliography	Required reading	1. H.Szydłowski, Pracownia fizyczna 2. T.Dryński, Ćwiczenia laboratoryjne z fizyki 3. R.Resnick, D.Halliday, Fizyka t.1-5 4. J.R. Taylor, Wstęp do analizy błędu pomiarowego
	Further reading	1. G.I. Squires, Praktyczna fizyka 2. I.W.Sawieliew, Wykłady z fizyki t.1,2,3 3. A.Zawadzki, H.Hofmokl, Laboratorium fizyczne

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives (including form of classes)
<p>C1. To familiarize students with basic physical phenomena and laws</p> <p>C2. Familiarization with the basic quantities describing these phenomena</p> <p>C3. Preparation for independent experimental work</p> <p>C4. Preparation for team experimental work</p> <p>C5. Preparing to write test reports, assessing measurement errors and uncertainties, discussing research results</p>

4.2. Detailed syllabus (including form of classes)

Laboratories:

As part of Laboratory I, students perform exercises in various branches of physics (mechanics, heat, electricity, magnetism, optics). Students are bound by the scope of material specified in the questions for each exercise are included in the general studies of individual exercises. The topics of the exercises and the order in which they are performed are included in the program of the Laboratory I.

4.3. Education outcomes in the discipline

Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE:		
W01	Describes and explains physical phenomena and processes based on acquired physical knowledge	INF1A_W01 INF1A_W02
W02	Knows the basic instruments and basic equipment used in physics and applications physical.	INF1A_W05
W03	Knows the basic principles of occupational health and safety	
within the scope of ABILITIES:		
U01	Plans measurements in experimental exercises in various areas of physics using instructions and literature.	INF1A_U03 INF1A_U04 INF1A_U17
U02	Conducts experimental measurements in accordance with the instructions.	INF1A_U01 INF1A_U07 INF1A_U22
U03	Analyzes experimental results, interprets and presents the obtained results results.	INF1A_U01 INF1A_U07 INF1A_U17
U04	Uses computer techniques and application software in the practical part as well as data analysis.	INF1A_U05
within the scope of SOCIAL COMPETENCE:		
K01	Follows occupational health and safety rules while performing experiments	INF1A_K03

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	Oral answer			Project			Self-study			Group work			Raport								
	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
W01																					
W02																					
W03																					
U01									+			+			+						
U02									+			+			+						
U03									+			+			+						
U04									+			+			+						
K01										+	+										

4.5. Criteria of assessment of the intended learning outcomes		
Form of classes	Grade	Criterion of assessment
lecture (L)	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
classes (C)	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
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

5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT

Category	Student's workload	
	Full-time studies	Extramural studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>		
<i>Participation in lectures</i>		
<i>Participation in laboratories/project</i>	45	
<i>Preparation for the exam</i>		
<i>Others</i>		
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>		
<i>Preparation for the lecture</i>		
<i>Preparation for the laboratories</i>	25	
<i>Preparation for the exam</i>		
<i>Gathering materials for the project</i>	10	
<i>Preparation of multimedia presentation</i>		
<i>Others*</i>		
TOTAL NUMBER OF HOURS	80	
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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