

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Physics		Code 1010331131011000037
Field of study Control Engineering and Robotics	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty -	Subject offered in: polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: 2 Project/seminars: -		No. of credits 2
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 2 100%
Responsible for subject / lecturer: prof. dr hab. Alina Dudkowiak email: alina.dudkowiak@put.poznan.pl tel. 61 665 31 81 Wydział Fizyki Technicznej ul. Nieszawska 13A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	have ordered knowledge in physics including the following fields: mechanics, thermodynamics, optics, electricity, magnetism, selected problems of nuclear physics, selected problems of physics of condensed state - [K_W02], are able to formulate and explain fundamental laws of physics in the range determined by the syllabus, are able to identify basic limitations of the laws and the range of their applications for description of phenomena in the real world - [K_W03]
2	Skills	are able to use the recommended sources of information and understand the contents (list of fundamental literature) and are able to gain knowledge from other sources - [K_U01], are able to use the fundamental laws of physics and simplified models in solving simple problems in the range determined by the syllabus - [K_U06]
3	Social competencies	are able to engage in solving basic problems, are able to extend their competence on their own - [K_K01]
Assumptions and objectives of the course: - Presentation of fundamental knowledge of physics in the range determined by the syllabus of the subject of study, - Development of the ability to solve simple problems, perform simple experiments and analyse/ interpret their results on the basis of the knowledge acquired, - Molding of the ability to working in team.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. be able to define basic physical notions, explain the aim and significance of simplified models in description of physical phenomena - [K_W02++] 2. know and understand the methods of measurements of physical quantities and knows the calculation methods needed to analyse the experiment results - [K_W11++]		
Skills: 1. are able to plan and perform standard measurements of fundamental physical phenomena, identify and evaluate the importance of factors disturbing measurements - [K_U02++] 2. are able to perform quantitative and qualitative analyses of simple experiments and formulate simple conclusions on the basis of the results of calculations and measurements - [K_U03++] 3. know and are able to apply the laws of safe work - [K_U23+]		
Social competencies:		

1. are able to undertake responsibility for their own work and are able to submit to the rule of team work and take responsibility of commonly realised tasks, are able to lead small groups, are able to identify the aims and priorities leading to their realisation - [K_K03++]

Assessment methods of study outcomes		
Pass on the basis of oral or written response to questions concerning each laboratory experiment, preparation of a written report on each laboratory experiment. The necessary condition of pass is to get positive mark for 85% of laboratory experiments (positive mark for oral or written response and report).		
Course description		
Selected laboratory experiments from the three main fields: mechanics, electromagnetism and optics.		
Basic bibliography:		
1. St. Szuba, Ćwiczenia laboratoryjne z fizyki, Wydawnictwo Politechniki Poznańskiej, Poznań 2007.		
Additional bibliography:		
1. H. Szydłowski, Pracownia fizyczna, PWN, Warszawa 2003.		
Result of average student's workload		
Activity	Time (working hours)	
1. Preparation to perform lab experiments	30	
Student's workload		
Source of workload	hours	ECTS
Total workload	60	2
Contact hours	30	1
Practical activities	60	2