GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Nuclear Physics Laboratory, PG_00053505		
Field of study	Biomedical Engineering, Biomedical Engineering, Biomedical Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Instytut Fizyki i Informatyki Stosowanej -> Faculty of Applied Physics and Mathematics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Brygida Mielewska	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	0.0	0.0	30

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	30	4.0	41.0	75

Subject objectives

To show experimental aspects of atomic and nucelar physics

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U02] can perform tasks related to the field of study in an innovative way as well as solve complex and nontypical problems, applying knowledge of physics, in changing and not fully predictable conditions	Student obtains knowledge of the physics course, especially nuclear physics. The student acquires the ability to analyze the phenomena occurring with the participation of ionizing radiation. The student is able to use simple physical models in relation to more complex systems.	[SU1] Assessment of task fulfilment
[K6_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions	The student gains the ability to conduct experiments with the use of radioactive isotopes. Can correctly present measurement data and assess measurement uncertainties. Can correctly interpret the results and draw conclusions.	[SU1] Assessment of task fulfilment

Subject contents

Investigation of stochastic processes with the use of spark-discharge detector. Measurement of the range of alfa particles in air with the use of ionizing chamber. Investigation of sample activation in neutron beam Measurement of half-time of radioactive decay in cascade processes. Measurement of absorption coefficient for gamma radiation in selected materia

Prerequisites and co-requisites

Physics - elementary course Physics od atomic nucleus and particles (08837)

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
All exercises from schedule positively marked	60.0%	50.0%
Acceptance of all reports	60.0%	50.0%

Recommended reading

Basic literature	1. Instrukcje do przedmiotu opracowane w formie edukacji na odległość, dostęp: http://enauczanie.pg.gda.pl/moodle. II Pracownia Fizyczna, M. Zubek, A. Kuczkowski, skrypt -Wydawnictwo PG
Supplementary literature	No requirements

	eResources addresses	Adresy na platformie eNauczanie: Fjkopia - Moodle ID: 6683 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=6683
Example issues/ example questions/ tasks being completed	Radioactive decay. Law of absorption of ionizing radiation.	
Work placement	Not applicable	