



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Course title		ECTS code	
Physics I		13.3.0714	
Name of unit administrating study			
Faculty of Mathematics, Physics and Informatics			
Studies			
faculty	field of study	type	first tier studies (BA)
Faculty of Chemistry	Chemical Business	form	full-time
		specjalty	all
		specialization	all
Teaching staff			
dr Karol Szczodrowski; Karolina Baranowska; dr hab. Janusz Szurkowski; prof. dr hab. Jerzy Kwela; mgr Agata Lazarowska; dr inż. Tadeusz Leśniewski; mgr Monika Kempieńska; prof. dr hab. Stanisław Pogorzelski; prof. dr hab. Andrzej Kowalski; dr Justyna Barzowska; dr Justyna Strankowska; dr inż. Joanna Kamińska; mgr Patryk Kamiński; dr Paweł Rochowski; mgr Natalia Majewska; prof. UG, dr hab. Sebastian Mahlik			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		5	
Auditorium classes, Lecture		classes - 60 h	
The realization of activities		tutorial classes – 10 h	
classroom instruction		student's own work – 55 h	
Number of hours		Total: 125 h - 5 ECTS	
Auditorium classes: 30 hours, Lecture: 30 hours			
The academic cycle			
2022/2023 winter semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
<ul style="list-style-type: none"> - Lecture - discussion - multimedia-based lecture - problem solving 		Final evaluation	
		<ul style="list-style-type: none"> - Graded credit - Examination 	
		Assessment methods	
		<ul style="list-style-type: none"> - written exam with open questions - (mid-term / end-term) test - graded course credit based on individual grades obtained during the semester - oral exam - oral course credit 	
		The basic criteria for evaluation	
		The basic criteria for evaluation or exam requirements	
		Passing two tests	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
none			
B. Prerequisites			
none			

Aims of education	
Aims of education Mastering the basic laws, theories and mathematical methods in the field of physics	
Course contents	
Course contents 1 The basics of classical mechanics - kinematics and dynamics, Newton's laws, the concept of kinetic and potential energy, the concept of momentum, angular momentum. Conservation laws 2. Elements of hydrodynamics 3. Vibrations and mechanical waves in elastic media - Harmonic motion, wave motion, wave vector, phase velocity and group wave speed, polarization and interference 4. Electricity and magnetism, electromagnetic waves 5. Elements of geometrical and wave optics 6. Electrotechnical elements (Ohm's law, Kirchhoff's law, current and voltage measurements)	
Bibliography of literature	
Bibliography of literature Literature required to pass the course - A. Bałanda, Fizyka dla chemików, skrypt UJ, Kraków 1994. - D. Halliday, R. Resnick, J. Walker, Podstawy fizyki, PWN, Warszawa, 2005 - J. O'Rear, Fizyka t.1. i 2	
The learning outcomes (for the field of study and specialization)	Knowledge Knowledge the student known and understand basic laws and theories in the field of physics; - has the knowledge necessary to understand and describe the physical processes important for the understanding of chemistry; - knows the basic calculation methods necessary to solve physics problems
	Skills
	Social competence
Contact	
karool@poczta.onet.pl	