



Subject card

Subject name and code	Physics II, PG_00044797						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Solid State Physics -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Anna Rybicka					
	Teachers	mgr inż. Wojciech Korzeniewski dr inż. Anna Rybicka					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	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	60	9.0		56.0	125	
Subject objectives	Knowledge of geometrical and wave optics. Knowledge of basic modern physics problem. Ability to analyze physical phenomena and solving engineering problems.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W01] has basic knowledge and understands the concepts of physics which allow to use optical and immersive instruments as well as positioning and satellite imaging	Students recognize basic physical phenomena; can formulate, explain and use fundamental laws of classical and modern physics.			[SW1] Assessment of factual knowledge		
	[K6_U02] can make basic geodetic drawings and read an architectural technical drawing	Students understand physical laws and solve problems on the basis of them.			[SU3] Assessment of ability to use knowledge gained from the subject		

Subject contents	<p>Basic laws of geometric and wave optics.</p> <p>Elements of special theory of relativity.</p> <p>Black body radiation.</p> <p>Quantum theory of light.</p> <p>Models of an atom.</p> <p>Schroedinger equation.</p> <p>Elements of solid state physics.</p> <p>Radioactivity.</p>											
Prerequisites and co-requisites	Continuation of course of physics, given during the first semester.											
Assessment methods and criteria	<table border="1" data-bbox="448 779 1485 887"> <thead> <tr> <th data-bbox="448 779 798 819">Subject passing criteria</th> <th data-bbox="798 779 1141 819">Passing threshold</th> <th data-bbox="1141 779 1485 819">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 819 798 851">Lecture - theory test</td> <td data-bbox="798 819 1141 851">50.0%</td> <td data-bbox="1141 819 1485 851">50.0%</td> </tr> <tr> <td data-bbox="448 851 798 887">Exercises - two practical tests</td> <td data-bbox="798 851 1141 887">50.0%</td> <td data-bbox="1141 851 1485 887">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Lecture - theory test	50.0%	50.0%	Exercises - two practical tests	50.0%	50.0%
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Recommended reading	<p>Basic literature</p> <p>Supplementary literature</p> <p>eResources addresses</p>	<p>Ohanian, Markert, Physics for Engineers and Scisntists, NY Norton, 2007</p> <p>www.ftims.pg.edu.pl/Studenci/Materialy_dydaktyczne (University Physics)</p> <p>Tipler, Llewellyn, Modern Physics, 6ed Freeman, 2012</p>	<p>Adresy na platformie eNauczenie:</p> <p>FIZYKA II - GiK_22/23 - Moodle ID: 26431</p> <p>https://enauczenie.pg.edu.pl/moodle/course/view.php?id=26431</p>									
Example issues/ example questions/ tasks being completed	<p>Fermat's principle.</p> <p>Lorentz's transformations.</p> <p>Photoelectric effect.</p> <p>Bohr's postulates.</p> <p>de Broglie's theory.</p>											
Work placement	Not applicable											