GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics III, PG_00039785		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2021/2022
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	blended-learning
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	6.0
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. Tadeusz Miruszewski	
	Teachers	dr inż. Marta Prześniak-Welenc dr inż. Tadeusz Miruszewski dr inż. Kamil Kolincio dr inż. Kacper Dzierzgowski dr inż. Marek Augustyniak	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	15.0	0.0	0.0	60

E-learning hours included: 36.0

Adresy na platformie eNauczanie:
Fizyka III - Wykład - Moodle ID: 18757
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18757
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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	10.0	80.0	150

Subject objectives

Acquiring knowledge in the field of electricity and magnetism, atomic and nuclear physics

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_U05	The student is able to use various sources of knowledge and learn independently	[SU3] Assessment of ability to use knowledge gained from the subject
K6_W02	Student uses commonly used mathematical notation in physical calculations, solves physical problems. Is able to explain the basic concepts of modern physics	[SW1] Assessment of factual knowledge
K6_K01	The student is able to determine the basic problems of electricity and magnetism. is aware of the limitations of his knowledge of modern physics. Can understand the need for further education	[SK5] Assessment of ability to solve problems that arise in practice
K6_U01	Student is able to perform basic measurements in the field of electricity and magnetism, and atomic physics.	[SU3] Assessment of ability to use knowledge gained from the subject

<table>
<tr><td>Subject contents</td><td>- electric field issues
- magnetic phenomena
- corpuscular wave duality
- atomic physics
- Nuclear physics
- basics of quantum mechanics</td></tr>
<tr><td>Prerequisites
and co-requisites</td><td>knowledge of physics from the previous semester</td></tr>
<tr><td>Assessment methods
and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>laboratory</td><td>50.0%</td><td>20.0%</td></tr>
<tr><td>accounting classes</td><td>50.0%</td><td>40.0%</td></tr>
<tr><td>exam</td><td>50.0%</td><td>40.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>M.A. Herman A. Kalestyński, L. Widomski "Podstawy fizyki dla kandydatów na wyższe uczelnie i studentów" PWN

J. Massalski "Fizyka dla inżynierów" NT

D. Halliday, R. Resnick, J. Walker „Podstawy fizyki”,PWN</td></tr>
<tr><td>Supplementary literature</td><td>R.Eisberg, R. Resnick, „Fizyka kwantowa”, PWN

A.A. Czerwiński „Energia jądrowa i promieniotwórczość”, OE

V. Acosta, C.L. Cowan, B.J. Graham, „Podstawy fizyki współczesnej”</td></tr>
<tr><td>eResources addresses</td><td>Fizyka III - Wykład - Moodle ID: 18757
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18757
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https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18757</td></tr>
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<tr><td>Example issues/
example questions/
tasks being completed</td><td>- based on the Bohr atom model, determine the energy of energy levels
- describe the photoelectric phenomenon
- explain the principle of operation of the nuclear reactor</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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