



Subject card

Subject name and code	Contribution of Poles to world science and technology, PG_00065188						
Field of study	Technical Physics						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			e-learning		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Jarosław Rybicki					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 30.0						
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	2.0		18.0		50
Subject objectives	The purpose of this course is to familiarize students with the contribution of Poles to world science and technology. This goal is important because 1) the excellent achievements of Poles are generally unnoticed by foreign authors; 2) the contribution of Poles is exceptional compared to other nations (taking into account the difficult history of Poland and a certain geographical peripherality). The purpose of the subject is to convince the audience that as Poles we should not have any complexes towards the West (We glorify the foreign but we don't know our own).						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	Understanding the interrelationships and interactions between different fields of science such as applied sciences, natural sciences, liberal arts, etc.			[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject		
	[K7_K71] is able to explain the need to apply knowledge from humanistic, social, economic or legal sciences in order to function in a social environment	Knowing that physical and technical sciences are only a part of the achievements of civilization and that interdisciplinary activities and research, with consideration of the humanities, are necessary.			[SK2] Assessment of progress of work [SK4] Assessment of communication skills, including language correctness		
	[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	The outstanding achievements of Poles will be presented on the background of the achievements of representatives of other nations and in a general historical context.			[SW1] Assessment of factual knowledge		

Subject contents	<ol style="list-style-type: none"> 1. Astronomers: astronomy in Cracow before Copernicus (Franko Polonus, Jan of Głogów, Wojciech of Brudzewo, et al.); Copernicus and his work; the Copernican Revolution; the reception of On the Revolutions. from the creation of the work to Newton; Hevelius and his work; Polish astronomers of the 19th and 20th centuries (Paczyński, Wolszczan, et al.). 2. Mathematicians: the 16th and 17th centuries - difficult beginnings (Jan of Łańcut, Tomasz Kłos, Stanisław Grzepecki, Jan Brożek, Stanisław Pudłowski and others); the 18th and 19th centuries - many reliable but not very famous; the 20th century - the apogee (Lviv and Warsaw schools (Banach, Mazur, Mazurkiewicz, Sierpiński, Tarski, Steinhaus, Kastner, Borsuk, Kuratowski, Ulam and more outstanding examples. 3. Physicists: from the dawn of Poland to the end of the 18th century: Witelo of Witów - the work and its reception; Pudłowski, Boratyni, Kochański, Chróścikowski, Rogaliński. The 19th century - Hoene-Wroński, Habich, Wróblewski, Olszewski. The phenomenon of Maria Skłodowska-Curie. Interwar period: Pieńkowski, Białobrzęski, Szczeniowski, Jabłoński, Adamczewski, Wolfke, Rubinowicz. Postwar times: Sosnowski, Infeld. 4. Chemists (and alchemists) - Michał Sędziwój, Cracow school (since 1782), Vilnius school (since 1784), Warsaw school (since 1862). Śniadecki, Mościcki, Nencki, Fuks, Fajans et al. 5. Profiles and achievements of selected Polish biologists, physicians, anthropologists. 6. Polish engineers: from the dawn to the end of the 18th century (Siemienowicz, Naroński and others). Partition period: on Polish territory and in exile (Nabielak, Baranowski, Kościuszko, Janicki, Malinowski, Modrzejewski, Prószyński and many others). Engineers of the interwar period. Poles' contribution to the Allied victory in World War II. The communist period - wasted talents. Postwar engineering careers of Poles - selected figures. <p>The programme includes a vast array of anecdotes.</p>								
Prerequisites and co-requisites									
Assessment methods and criteria	<table border="1"> <thead> <tr> <th>Subject passing criteria</th> <th>Passing threshold</th> <th>Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>test</td> <td>51.0%</td> <td>100.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	test	51.0%	100.0%
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Recommended reading	Basic literature	PPT presentations provided by the lecturer selected chapters or pages from original texts/fragments extracted from the works of outstanding Poles							
	Supplementary literature	<i>Historia nauki polskiej, zbiorowa, tomy I-VIII, Ossolineum (wybrane rozdziały/strony)</i> <i>B. Orłowski, Historia techniki polskiej</i> Borucki Marek, Wielcy zapomniani. Polacy, którzy zmienili świat. Część 1 (2014), część 2 (2016), Wydawnictwo MUZA S.A.							
	eResources addresses	Podstawowe https://enauczanie.pg.edu.pl/moodle/course/edit.php?id=26533 - e-learning PG Uzupełniające Adresy na platformie eNauczanie: Wkład Polaków do nauki i techniki światowej - Moodle ID: 40501 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=40501							
Example issues/ example questions/ tasks being completed	Profiles of Polish scientists								
Work placement	Not applicable								

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