



Subject card

Subject name and code	History of science and technology, PG_00066593						
Field of study	Mathematics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group			Humanistic-social subject group		
Mode of study	Full-time studies	Mode of delivery			e-learning		
Year of study	1	Language of instruction			Polish For those willing, the assessment is in the form of an essay on a chosen topic (3000 words)		
Semester of study	2	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute Of Naval Architecture -> Faculty Of Mechanical Engineering And Ship Technology -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Cezary Żrodowski					
	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						
	Additional information:						
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	Understanding of the trends in the development of civilization, predicting probable directions of development of science and technology in the future, the ability to make strategic decisions with long-term effects.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	The student correctly places the most important scientific inventions and discoveries on the timeline and identifies their causes and effects.			[SW1] Assessment of factual knowledge		
	[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	The student indicates probable directions of development of currently used technologies.			[SK4] Assessment of communication skills, including language correctness		
	[K7_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	The student independently interprets the chronological sequence of inventions and discoveries and the relationships between them.			[SU1] Assessment of task fulfilment		

Subject contents	<p>1. The purpose of studying the history of science and technology, analysis of failures and successes, basic historical characteristics (Gartner hype curve, PLM curve, technology waves, historical trends in technology and economy), predicting the directions of technology development in the future (forecasting)2. The background of the emergence of science and technology (needs, possibilities, opportunities).3. Cycles of science and technology development, emergence of new branches, development of tool knowledge.4. Phases of civilization development related to technology (Stone Age, Bronze Age, Iron Age, Steam Age, Motorization, Information Age)5. Development of technology and science (cause-effect relationships of changes in the existing state of technology, science, economy, social structure, durability and consequences).6. Turning points (discoveries, wars, disasters, accidents).7. Development of isolated civilizations (common and unique achievements in technology and science).8. Barriers and stimuli to the development of technology (writing, counting, tools, drawing, canon, finance, economy, wars, technical culture, materials, chemistry, mobility, vehicles, information exchange, law, computers, the Internet, basic and applied research, medicine).</p>								
Prerequisites and co-requisites									
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="456 667 786 696">Subject passing criteria</th> <th data-bbox="799 667 1145 696">Passing threshold</th> <th data-bbox="1158 667 1479 696">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 703 786 732">test</td> <td data-bbox="799 703 1145 732">50.0%</td> <td data-bbox="1158 703 1479 732">100.0%</td> </tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	test	50.0%	100.0%		
Subject passing criteria	Passing threshold	Percentage of the final grade							
test	50.0%	100.0%							
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Pater Z.: Wybrane zagadnienia z historii techniki, Politechnika Lubelska, Lublin 2011</li> <li>2. Wróblewski A.K.: Historia fizyki, PWN, 2011</li> <li>3. Bynum W.: Krótka historia nauki, Wydawnictwo RM, 2016</li> <li>4. Sady W.: Dzieje nauki, filozofii i religii. Wyd. Marek Derewiecki, Kęty 2010</li> </ol>							
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Rejmer K.: Zapomniana historia nauki, czyli fantazje i facecje naszych dziadków, PWN 2017</li> <li>2. Batur W. (red.), Technika. Spojrzenie na dzieje cywilizacji, Warszawa 2003</li> <li>3. Orłowski B.:Powszechna historia techniki, Oficyna Wydawnicza Mówią Wieki, Warszawa 2010.</li> <li>4. Bruno L.C.: The Landmarks of Science, 1989</li> </ol>							
	eResources addresses	<p>Uzupełniające Adresy na platformie eNauczenie: Historia nauki i techniki, W, UF, lato 24/25 - Moodle ID: 44312 <a href="https://enauczenie.pg.edu.pl/moodle/course/view.php?id=44312">https://enauczenie.pg.edu.pl/moodle/course/view.php?id=44312</a></p>							
Example issues/ example questions/ tasks being completed	<p>Without referring to dates, arrange and justify the chronological order of inventions and discoveries:</p> <ol style="list-style-type: none"> <li>1. 6 inventions (e.g.: generator, telegraph, telephone, electric motor, light bulb, capacitor)</li> <li>2. 6 discoveries (e.g.: vaccine, disinfection, pasteurization, microscope, bacteria, antibiotics)</li> </ol>								
Work placement	Not applicable								

Document generated electronically. Does not require a seal or signature.