



Subject card

Subject name and code	Technology and Civilization, PG_00056482						
Field of study	Mechatronics						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			1.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Wojciech Owczarzak				
	Teachers		dr inż. Wojciech Owczarzak				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		1.0		9.0	25
Subject objectives	Presentation of the development of civilization and technology from the dawn of humanity to the present day.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K01] is aware of non-technical aspects, individual and collaborative work responsibility and is capable to comply to rules of team cooperation and to take responsibility for collectively performed tasks						
[K6_K02] is aware of social role of the technical university alumni, the importance of professional attitudes, obeying ethic rules with respect to diverse point of views and cultures, understands the need for permanent self-learning							
Subject contents	Definitions: techniques, civilization, culture. The key invention of mankind is a container for transporting fire. Migrations. Paleolithic: first mechanical tools, first construction of seats. Neolithic: circle and circle. Bronze: mechanical processing of metals. Iron: the beginnings of metallurgy, plastic working of metals, precise tools in applied and decorative arts. Antiquity: a girder as a structural element, skeletal structures in shipbuilding, a pulley, a screw conveyor, an arch in construction, aqueducts as the first waterworks, a throwing weapon. Theodolite prototype. The development of philosophy and mathematics. Middle Ages: printing press, water wheel and windmills: mechanical gears, mechanical energy accumulators, trigger mechanisms. Artesian wells. Renaissance: da Vinci designs, the constructions of Galileo, Kepler, Gilbert, Newton. The French Revolution: The Guillotine. Industrial revolution: steam engine, mechanical spinning mill, programmable weaving machine, mines, Bessemer steel mills, riveted bridge, steel ships, railroads, tunnels, planes, tanks, telegraph, telephone, radio, internal combustion engine, car, production line, machine gun, patent law. World War I: mechanization of works, development of high-rise construction, construction of large machines (turbines), bridges, tunnels, canals; diesel engine, jet plane, rocket, tank. Present: space mechanics, nanomechanics, ecomechanics.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	The presentation		50.0%		100.0%		

Recommended reading	Basic literature	1. Calendar of the history of the world. PWN Encyclopedia. 2005 2. History of the world. PWN Encyclopedia. 2008
	Supplementary literature	1. The Great PWN Encyclopedia, 2008
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>The impact of the indicated discovery / invention on the development of civilization.</p> <p>The most important technical achievements of the Bronze Age Stonehenge's hypothetical functions</p>	
Work placement	Not applicable	