



Subject card

Subject name and code	Technology and Civilization, PG_00056482						
Field of study	Management and Production Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2023/2024		
Education level	first-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	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: 15.0						
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] feels the need for self-realization by learning throughout life, is looking for modern and innovative solutions in their actions, is able to think creatively and act in an entrepreneurial way						
	[K6_U11] is able to identify and formulate simple engineering tasks related to the diagnostics of the technical condition of machines and devices using appropriate methods, techniques and tools						
	[K6_W12] has detailed, theoretically founded knowledge of methods and techniques used in production quality control processes, statistical process control, modern techniques and measurement systems in quality assurance and information techniques in production systems						
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	Adresy na platformie eNauczanie: Technika a cywilizacja - Moodle ID: 34986 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=34986	
Example issues/ example questions/ tasks being completed	The impact of the indicated discovery / invention on the development of civilization. The most important technical achievements of the Bronze Age Stonehenge's hypothetical functions		
Work placement	Not applicable		