



Subject card

Subject name and code	Technology and Civilization, PG_00005028						
Field of study	Mechanical Engineering, Mechanical Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject				2020/2021	
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				2.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ryszard Woźniak				
	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						
Technika a cywilizacja - W, MiBM, sem.01 (M:03863W0) - Moodle ID: 11202 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=11202							
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	0.0		0.0		15
Subject objectives	Presentation of development of civilisation and technology since the beginning of mankind						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_K01] is aware of the need for complementing the knowledge throughout the whole life, is able to select proper methods of teaching and learning, critically assesses the possessed knowledge; is aware of the importance of professional conduct and following the rules of professional ethics; is able to show resourcefulness and innovation in the realisation of professional projects						
	[K6_U11] is able to analyse the operation of devices and compare the construction solutions applying usage, safety, environmental, economic and legal criteria						
	[K6_W12] possesses basic knowledge necessary to understand the ex-technical conditions of engineering activity, possesses basic knowledge on management, including quality management and running commercial enterprise, within the range of protection of intellectual property and patent law; knows general principles of creating and developing forms of individual entrepreneurship and basic HSE rules applicable to machine industry						

Subject contents	Definitions: technology, civilisation, culture. Key invention – container for transport of fire. Migrations. Paleolithic Age: first mechanical tools of stone, bone, wood, first shelter structures. Neolithic Age: circle, wheel, pottery, furniture. Bronze Age: copper and silver mines, advanced metalwork. Iron Age: metallurgy, forgery, iron weapon, advanced tools in trade and fine art. Ancient Age: structural beam, arch and integral body and frame structure in shipbuilding and architectural engineering, water supply system (aqueduct) block and tackle, screw conveyer, theodolite; development of philosophy and mathematics. Renaissance: da Vinci's projects, Galileo's, Kepler's, Gilbert's, Newton's constructions. French Revolution: guillotine. Industrial Revolution: steam engine, mechanical spinning mule, programmable loom, Bessemer converter, iron bridge, steel hull, railway, motorcar, aircraft, submarine, tank, machine gun, telegraph, telephone, radio, production line; patent law. I + II World War Period: production mechanisation, skyscraper, powerful machine (turbine), diesel engine, jet, racket, large: bridge, tunnel, dam, channel. Contemporaneity: space mechanics, nanomechanics, ekomechanics.		
Prerequisites and co-requisites	No introductory knowledge is required.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Presentation	50.0%	100.0%
Recommended reading	Basic literature	1. Kalendarium dziejów świata. Encyklopedia PWN. 2005 2. Historia świata. Encyklopedia PWN. 2008	
	Supplementary literature	1. Wielka Encyklopedia PWN, 2008	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<p>Influence of a discovery / invention upon civilization.</p> <p>The most important achievements in Bronze Age</p> <p>Hypothetical functions of Stonehenge</p>		
Work placement	Not applicable		