

**COURSE SPECIFICATION**

Course code	full-time programme:	M#2-S1-ME-105
	part-time programme:	
Course title in Polish	Historia techniki i wynalazków	
Course title in English	Industrial Development Trends	
Valid from (academic year)	2024/2025	

GENERAL INFORMATION

Programme of study	MECHANICAL ENGINEERING
Level of qualification	first-cycle
Type of education	academic
Mode of study	full-time programme
Specialism	all
Department responsible	Department of Machine Design and Machining
Course leader	dr hab. inż. Sławomir Błasiak, prof. PŚk
Approved by	dr hab. Jakub Takosoglu, prof. PŚk, Dean of the Faculty of Mechatronics and Mechanical Engineering

COURSE OVERVIEW

Course type		programme-specific
Course status		compulsory
Language of instruction		English
Semester of delivery	full-time programme	Semester I
	part-time programme	
Pre-requisites		
Examination required (YES/NO)		NO
ECTS value		1

Mode of instruction		lecture	class	laboratory	project	seminar
No. of hours per semester	full-time programme	15				
	part-time programme					

LEARNING OUTCOMES

Category of outcome	Outcome code	Course learning outcomes	Corresponding programme outcome code
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Knowledge	W01	Has advanced structured knowledge of the reasons for mankind's pursuit of self-improvement, the emergence of inventions to improve the way of life and lifestyle. In addition, he has a structured knowledge of the history of mankind, knows the greatest achievements of mankind to date and is able to systematise them on a timeline.	MiBM1_W05
	W02	Has an in-depth knowledge of the nomenclature, construction, principle of operation of various types of machines, mechanical and mechatronic devices that have been invented and used by mankind in the past.	MiBM1_W06
Skills	U01	Can obtain and interpret information from literature, databases and other sources related to the history of structural solutions and can interpret surviving drawings and sketches of ancient mechanisms.	MiBM1_U03
	U02	Can speak fluently about the way existing technical solutions work, their history, humanity's striving for self-improvement, can formulate and justify opinions.	MiBM1_U10
Competence	K01	He/she is ready to critically evaluate his/her knowledge, is aware of the need to supplement his/her expertise throughout life and is able to select appropriate sources of knowledge and methods of learning for himself/herself and others.	MiBM1_K01
	K02	Is aware of the responsibilities associated with decisions made in engineering and managerial activities.	MiBM1_K05

COURSE CONTENT

Type of instruction lecture	Topics covered
lecture	To familiarise students with the basic problems associated with the development of technology and inventions. Prehistory of science and technology, origins of technical civilisation, achievements of the Greeks and Romans. Technology in the Middle Ages. Activities of selected inventors in European history, e.g: Galileo, da Vinci, Descartes, Newton, etc. Development of Polish and European technology in the 16th-18th centuries. The origin, course and effects of the Industrial Revolution in Europe. Development of world technology in the first half of the 20th century. Development of Polish technology in the interwar period.

ASSESSMENT METHODS

Outcome code	Methods of assessment (Mark with an X where applicable)					
	Oral examination	Written examination	Test	Project	Report	Other
W01			X			
W02			X			
U01			X			
U02			X			
K01			X			





K02			X			
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ASSESSMENT TYPE AND CRITERIA

Mode of instruction	Assessment type	Assessment criteria
lecture	non-examination assessment	The pass mark is a minimum of 50% for all the in-class tests.

OVERALL STUDENT WORKLOAD

ECTS weighting												
No.	Activity type	Student workload										Unit
		full-time programme					part-time programme					
1.	Scheduled contact hours	L	C	Lb	P	S	L	C	Lb	P	S	h
		15										
2.	Other contact hours (office hours, examination)	2										h
3.	Total number of contact hours	17										h
4.	Number of ECTS credits for contact hours	0,7										ECTS
5.	Number of independent study hours	8										h
6.	Number of ECTS credits for independent study hours	0,3										ECTS
7.	Number of practical hours	0										h
8.	Number of ECTS credits for practical hours	0,0										ECTS
9.	Total study time	25										h
10.	ECTS credits for the course <i>1 ECTS credit = 25-30 hours of study time</i>	1										ECTS

READING LIST

- Orłowski Bolesław, Historia techniki polskiej. Wydawnictwo Instytutu Technologii Eksploatacji, Radom 2006.
- Wiślicki Alfred, Z dziejów maszyn. Polska Oficyna Wydawnicza BGW, Warszawa 1996.
- Orłowski Bolesław red., Z dziejów techniki w dawnej Polsce. Wyd. IHNOiT, Warszawa 1992. pod. red. Orłowski B., Encyklopedia odkryć i wynalazków, Wydawnictwo Wiedza Powszechna, Warszawa 1979.
- Bodanis D, E=mc². Historia najsłynniejszego równania w dziejach świata, Wydawnictwo Fakty, Wydawnictwo CiS, Warszawa 2001.
- Kaku M, Wizje czyli jak nauka zmienia świat w XXI wieku, Prószyński i S-ka, Warszawa 2001.
- Borucki Marek, Polacy, którzy zmienili świat, Warszawa 2015.
- Brown George, Historia materiałów wybuchowych. Od czarnego prochu do bomby termojądrowej, Warszawa 2001.
- Kennedy Paul, Architekci zwycięstwa. Jak inżynierowie wygrali II wojnę światową, Warszawa 2015.





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Rzeczpospolita
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Dofinansowane przez
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9. Kopczewski Michał, Ludzie i technika szkice z dziejów cywilizacji przemysłowej, Warszawa 2010.
10. Łukaszewicz Juliusz, Początki cywilizacji technicznej na ziemiach polskich, Warszawa 1988
11. Łukaszewicz Juliusz, Przewrót techniczny w przemyśle Królestwa Polskiego 1852-1886, Warszawa 1973.



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i Budowy Maszyn