GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Engineering problems in cardiology, PG_00055753		
Field of study	Mechanical and Medical Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	4	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	prof. dr hab. lek.med. Janusz Siebert	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	15.0	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

Diagnostic tools in cardiology

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U10] he/she is able to assess the human body physic and basic functioning of the body organs, he/she is able to use basic medical knowledge to solve mechanical-medical problems in the scope of the MME study	performs complete and targeted physical examination of adult patients;	[SU4] Assessment of ability to use methods and tools
[K6_K02] he/she is aware of importance of professional dealing and to fulfill ethics obligations, he/she understands other (non-technical) abilities of mechanical engineering professional, their influence on the society and security of environment, he/she is aware of importance of social cooperation	1. complies with the medical secrecy obligation and honours all patient's rights 2.abides by the model codes of ethics in professional activity;	[SK5] Assessment of ability to solve problems that arise in practice
[K6_W12] he/she has basic knowledge in the field of fundamental medical sciences, human body anatomy, and physiology, salvage service	1. knows morfology and human physiology 2. possesses the skill of acting in conditions of uncertainty or stress	[SW2] Assessment of knowledge contained in presentation

<table>
<tr><td>Subject contents</td><td>Diagnostic tools in cardiology

1. Basic concepts of electrocardiography /ECG/

2. Basic concepts of impedance cardiogrphy /ICG/.

3. Basic concepts of echocardiography.

4. Basic concepts of ultrasonography

5. Basic concepts of electrotherapy /pacemaker therapy (AAI, VVI, DDD)/

6. Invasive procedures in cardiology / PTCA/

7. Principles of cardiosurgery</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Essej</td><td>60.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Seminar multimedia presentations updated yearly

1. "ECGs by Example" Dean Jenkins, Stephen Gerred, Elsevier, 3rd edition, 2011,</td></tr><tr><td>Supplementary literature</td><td>B. Supplementary literature
Guidelines of the European Society of Cardiology (ESC) - www.escardio.org</td></tr><tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Phsical principles of ECG

Physical principles of USG

Pacemarcer therapy</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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