GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Implants and endoprotheses, PG_00055770		
Field of study	Mechanical and Medical Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
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	3	Language of instruction	Polish -
Semester of study	6	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Michał Bartmański	
	Teachers	dr inż. Michał Bartmański dr inż. Łukasz Pawłowski dr inż. Magda Rościszewska	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	15.0	0.0	30

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	30	10.0	35.0	75

Subject objectives

The aim of the course is to show the differences between an implant and an endoprosthesis. Learning to design a simple implant, along with the selection of material and coating.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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	The student is able to work in a team.	[SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills
[K6_W13] he/she has knowledge related to application of engineering approaches in medicine or application of medical devices and rehabilitation devices	Can design a simple medical device.	[SW3] Assessment of knowledge contained in written work and projects
[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	The student has knowledge of the anatomy and functioning of the human body.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject

Subject contents

Lecture: materials for implants and endoprostheses, types for specific medical fields, coatings.

Project: Selection of material and design of the implant and endoprosthesis for an indywidual patient.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Completed material science course.</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Lecture, project</td><td>80.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">English-language articles</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">-</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:
Implanty i endoprotezy W, P, IMM, sem.06, I st., sem. letni 2023/2024 - Moodle ID: 37760
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37760</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">1. Material selection for a specific implant, endoprosthesis for an individual patient.

2. Selection of a coating for a specific implant, endoprosthesis for an individual patient.

3. Design of the implant and endoprosthesis for an individual patient.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>