GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00073760		
Field of study	Mechanical and Medical Engineering		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Biomaterials Technology -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Joanna Sypniewska	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	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 prepare students to independently search, critically analyze, and synthesize English-language scientific literature using knowledge of literature review methods, publication quality assessment, and specialized terminology, while developing readiness to actively participate in English-language academic activities in the context of identifying current advances and research problems in biomaterials and medical engineering.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U82] is able to proficiently obtain and process information related to field of study and academic environment in foreign language at B2+ level of the Common European Framework of Reference for Languages (CEFR)	Is able to retrieve and process specialized information from English-language scientific publications at B2+ level, using academic reading and paraphrasing strategies to prepare a scientific text in English.	[SU2] Assessment of ability to analyse information
[K7_W12] identifies and interprets the main developmental trends and significant new achievements in the field of engineering and technical sciences and disciplines relevant to the course of study	Knows and understands current research trends and selected scientific advances in biomaterials and medical engineering in the context of identifying research problems and gaps based on English-language publications.	[SW2] Assessment of knowledge contained in presentation
[K7_U14] integrates information obtained from literature and other properly selected sources, including those in a foreign language, creatively interpreting and critically evaluating them, and drawing conclusions	Is able to integrate and critically evaluate information from English-language scientific publications, using comparative analysis of research methodologies and findings to prepare a literature review and draw well-supported conclusions.	[SU1] Assessment of task fulfilment
[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	Is ready to actively participate in English-language academic classes and discussions, particularly by preparing substantive questions, presenting a position, and engaging in discussions of biomaterials research findings.	[SK4] Assessment of communication skills, including language correctness

<table>
<tr><td>Subject contents</td><td>Course content – exercises

Searching for English-language scientific publications in bibliographic databases and selecting keywords related to biomaterials and medical engineering. Evaluating source reliability, analyzing article structure, and interpreting specialized terminology. Comparing research methods and published findings, identifying current trends, and practicing paraphrasing and information synthesis in English. Academic discussion of selected research articles.

Course content – project

Independent preparation of a review of English-language scientific literature concerning a selected research problem in biomaterials, including dental materials. Definition of the review scope, search strategy, and publication selection criteria. Critical analysis and synthesis of research findings, identification of research gaps, and preparation of an English-language written review and presentation of conclusions.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>English language proficiency sufficient to read specialized scientific publications, basic knowledge of biomaterials and medical engineering, and the ability to use scientific information sources.</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>Written literature review and reference list</td><td>70.0%</td><td>50.0%</td></tr>
<tr><td>English-language article analysis</td><td>70.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>Booth W. C., Colomb G. G., Williams J. M., Bizup J., Fitzgerald W. T., The Craft of Research, 4th ed., University of Chicago Press, 2016.

Hart C., Doing a Literature Review: Releasing the Research Imagination, 2nd ed., SAGE Publications, 2018.

Cargill M., O'Connor P., Writing Scientific Research Articles: Strategy and Steps, 2nd ed., Wiley-Blackwell, 2013.</td></tr>
<tr><td>Supplementary literature</td><td>Machi L. A., McEvoy B. T., The Literature Review: Six Steps to Success, 3rd ed., Corwin, 2016.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>How can English-language scientific publications on biomaterials be searched and selected? How can the reliability and methodological quality of a scientific article be evaluated? What are the current research trends in dental biomaterials?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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