

1.	Field of study	Materials Science and Engineering
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2023/2024 (winter term), 2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies (in engineering)
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Problem-Solving Workshops
Mod	lule code	IM1A_SD_0
Nur	nber of the ECTS credits	3
Lan	guage of instruction	
	pose and description of the ent of education	The Problem-solving workshops module aims to enable students to expand their knowledge in the field of modern engineering materials and familiarize themselves with the latest research conducted by research teams at the University of Silesia. Through participation in this module, students will develop analytical thinking skills, problem-solving abilities related to modern engineering materials, gain practical experience in working with new materials and technologies, and be inspired to choose a topic for their engineering thesis.
con	of modules that must be pleted before starting this lule (if necessary)	not applicable

B. Learning outcomes of the module					
Code	Description	Learning outcomes of the programme	Level of competent (scale 1-5)		
IM1A_MSPEC _1_1	Knowledge in the field of the latest developmental trends in engineering materials.	IM1A_W08	3		
	Skills in identifying and formulating specifications for engineering tasks related to advanced engineering materials.	IM1A_K01	3		
_1_2		IM1A_K02	3		
		IM1A_U01	3		
		IM1A_U02	3		
		IM1A_U07	3		
		IM1A_U08	3		
	Perceiving systemic and non-technical aspects, including ethical considerations, and conducting preliminary economic assessments of proposed solutions and engineering actions related to modern engineering materials.	IM1A_U07	3		
IM1A_MSPEC	The ability to self-educate in order to expand knowledge in the field of materials engineering and find inspiration for	IM1A_K01	3		
_1_4	choosing a topic for an engineering thesis.	IM1A_K02	3		

9. Methods of	Methods of conducting classes			
Code	Category	Name (description)		
a05	Lecture methods / expository methods	Explanation/clarification explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course		
b04	Problem-solving methods	Activating method — discussion / debate an exchange of views supported by substantive arguments leading to a clash of different views, a compromise or the identification of common positions; it proceeds according to previously agreed-upon rules regarding the time, manner and turn-taking as well as the principles of civil discourse; a discussion is not a competition but aims at finding the best solutions or presenting different points of view; its varieties include brainstorming, Oxford-style debate, panel discussion, decision tree, conference discussion; a debate is an orderly dispute between supporters and opponents of a viewpoint, usually specialists in the field or pre-selected representatives of a group dealing with a common problem		
b10	Problem-solving methods	SWOT analysis a method of analyzing a phenomenon/action/work of an institution, employed to organize information and solve problems; applied in strategic planning, project implementation or solving a business or organizational problem; a universal tool to be used in the initial stage of a strategic analysis which involves sorting information about a problem into four categories: strengths and weaknesses, opportunities and threats; SWOT analysis makes it possible to determine the factors in favour of a project and its chances for success, as well as eliminating or reducing negative factors and threats to the project at the stage of early diagnosis		
f03	Methods of self-learning	Conceptual work a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work		

10. F	Forms of teaching					
	Code	Name		_	Learning outcomes of the module	Methods of conducting classes
IM1A_	_MSPEC1_fs2	workshop	45		IM1A_MSPEC_1_1, IM1A_MSPEC_1_2, IM1A_MSPEC_1_3, IM1A_MSPEC_1_4	a05, b04, b10, f03

11. The student	The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?	
a01	Preparation for classes	Search for materials and review activities necessary for class participation reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the range of activities indicated in it as required for full participation in classes	No	
a02	Preparation for classes	Literature reading / analysis of source materials reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class	No	
a03	Preparation for classes	Developing practical skills activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)	No	

a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation developing, preparing and assessing the usefulness of tools and materials (e.g. aids, scenarios, research tools, equipment, etc.) to be employed in class or as an aid when preparing for classes	No
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content reading through the syllabus and getting acquainted with its content	Yes
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class exploring the studied content, inquiring, considering, assimilating, interpreting it, or organizing knowledge obtained from the literature, documentation, instructions, scenarios, etc., used in class as well as from the notes or other materials/artifacts made in class	No
d01	Consulting the results of the verification of learning outcomes	Analysis of the corrective feedback provided by the academic teacher on the results of the verification of learning outcomes reading through the academic teacher's comments, assessments and opinions on the implementation of the task aimed at checking the level of the achieved learning outcomes	Yes
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade	Yes

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: https://usosweb.us.edu.pl.