



Subject card

Subject name and code	Practical and professional aspects , PG_00060256												
Field of study	Biomedical Engineering, Biomedical Engineering, Biomedical Engineering												
Date of commencement of studies	February 2026		Academic year of realisation of subject			2025/2026							
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	1		ECTS credits		1.0								
Learning profile	general academic profile		Assessment form		assessment								
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology												
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marek Augustyniak										
	Teachers		dr inż. Marek Augustyniak										
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM						
	Number of study hours	0.0	0.0	0.0	15.0	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		0.0		0.0	15						
Subject objectives	<p>The classes are aimed at facilitating the start of professional life for students. In particular, it is about encouraging people to make informed choices (budget vs. commercial sector, IT, designing, trading or servicing medical equipment, etc.).</p> <p>A significant portion of the courses is organised in the formula of "subject on demand", addressing the skills which are considered the most important for the given group.</p>												
Learning outcomes	Course outcome		Subject outcome			Method of verification							
	[K7_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of advanced technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment		The student is acquainted with the market of technical services, understands the differences between a scientific and engineering career. He/she understands the financial and ethical aspects of professional work. The student is able to acquire and organize pieces of technical information from the Internet, determining the degree of data credibility, and then present it both in the context of the progress of science and engineering practice.			[SU5] Assessment of ability to present the results of task							
	[K7_W08] knows and understands, to an increased extent, the fundamental dilemmas of modern civilisation, the main development trends of scientific disciplines relevant to the field of education		The student is able to consciously choose one of the industries related to biomedical engineering. He/she understands the differences and similarities between work in the budget sector and the commercial sector.			[SW2] Assessment of knowledge contained in presentation							

Subject contents	<p>Course content – project @ professional mentoring: case studies, differences between academic career and work in companies, trips outside GUT (optional)</p> <p>@ CAE tools: AutoCAD, Fusion, Salome, Ansys - to choose from, according to group preferences</p> <p>@ Python - introduction to or upgrade of skills; specific usage of Python in biomedical projects</p> <p>@ obtaining reliable information from the web (TechInfoMaster system)</p> <p>@ consultation of individual CVs</p>						
Prerequisites and co-requisites							
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="446 586 806 624">Subject passing criteria</th><th data-bbox="806 586 1144 624">Passing threshold</th><th data-bbox="1144 586 1487 624">Percentage of the final grade</th></tr> </thead> <tbody> <tr> <td data-bbox="446 624 806 660">commitment to work</td><td data-bbox="806 624 1144 660">70.0%</td><td data-bbox="1144 624 1487 660">100.0%</td></tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	commitment to work	70.0%	100.0%
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Recommended reading	<table border="1"> <tr> <td data-bbox="446 660 774 833">Basic literature</td><td data-bbox="774 660 1487 833"> Original mentoring presentations. Short films recorded by alumni, presenting their professional experience. </td></tr> <tr> <td data-bbox="446 833 774 869">Supplementary literature</td><td data-bbox="774 833 1487 869">---</td></tr> <tr> <td data-bbox="446 869 774 916">eResources addresses</td><td data-bbox="774 869 1487 916"></td></tr> </table>	Basic literature	Original mentoring presentations. Short films recorded by alumni, presenting their professional experience.	Supplementary literature	---	eResources addresses	
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Supplementary literature	---						
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Example issues/ example questions/ tasks being completed	<p>CAD/CAE software to choose from:AutoCAD: ABC of Design (also: LibreCAD)Fusion: simple, diverse 3D CAD + simulation tools (~3-10,000 PLN per year)Salome/Calculix: Solid CAD/CAE 3D - not so simple like Fusion but completely freeAnsys: an expensive, very powerful research and engineering toolFEMM: free, simple electromagnetism in a nutshellSnapITK: a program for processing DICOM into 3D modelsPython / PyCharmA simple yet versatile scripting language - very popular- basics- examples: "company game", animations- examples from biomedical engineering - esp. data processing, biostatistics >> seminar proposalTechInfoMaster: troubles and dilemmas during queries:@ Where to look first?@ Can Google lie? How much to trust Wikipedia?@ How to efficiently browse scientific publications? Do you have to pay for them?@ Is the information found certain? How to determine its weight?@ When do you think enough searching is enough?@ How to quickly collect the found data and present it to the Boss/Client? (or if I'm still a student: Lecturers?)</p>						
Practical activites within the subject	Not applicable						

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