GDAŃSK UNIVERSITY OF TECHNOLOGY

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	October 2024		Academic year of realisation of subject		2024/2025		
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		1.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marek Augustyniak				
	Teachers		dr inż. Marek Augustyniak				

Lesson types and methods of instruction	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	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.). 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.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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
	[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

Subject contents	@ professional mentoring: case studies, differences between academic career and work in companies, trips outside GUT (optional)
	@ CAE tools: AutoCAD, Fusion, Salome, Ansys - to choose from, according to group preferences
	@ Python - introduction to or upgrade of skills; specific usage of Python in biomedical projects
	@ obtaining reliable information from the web (TechInfoMaster system)
	@ consultation of individual CVs
Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	commitment to work	70.0%	100.0%

Recommended reading	Basic literature	Original mentoring presentations.
		Short films recorded by alumni, presenting their professional experience.
	Supplementary literature	---
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	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 simplelike 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?)

Work placement	Not applicable

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