GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Propedeutics of General and Emergency Medicine, PG_00068175		
Field of study	Biomedical Engineering		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Humanistic-social subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish Polish
Semester of study	2	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Biomechatronics -> Faculty of Electrical and Control Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Grzegorz Redlarski	
	Teachers	prof. dr hab. inż. Grzegorz Redlarski dr inż. lek. Piotr Tojza	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	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	1.0	9.0	25

Subject objectives

The aim of the course is to familiarize students with the basic principles of conduct of a medical doctor during the process of medical diagnostics, implementation of targeted treatment and provision of further care for the patient.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W51] Knows and understands, to an advanced extent, selected aspects of biomedical diagnostics and human anatomy and physiology, constituting general knowledge related to the field of study	The student has general knowledge of medical procedures in the field of subjective and objective medical examination, medical diagnostic systems, systems supporting the work of the doctor, as well as therapeutic procedures used at various stages of treatment.	[SW1] Assessment of factual knowledge
[K6_W02] knows and understands, to an advanced extent, selected laws of physics and physical phenomena as well as methods and theories explaining the complex relationships between them, constituting the basic general knowledge in the field of technical sciences related to the field of study	The student is able to identify and analyse problems arising from the doctor’s work and then propose (develop) technical solutions supporting the doctor’s work at various stages of treatment.	[SW2] Assessment of knowledge contained in presentation

Subject contents	Course content – lecture The student learns to understand the way a doctor works in terms of the basics of the methods of diagnostics and treatment used. They will learn how to analyze medical data and draw conclusions by a doctor. They will acquire basic knowledge about the most important and most common diseases, as well as methods of their diagnostics using currently available medical devices. They will learn to indicate the technical needs of modern medicine and relate them to the current state of technology. Hence, the content of the subsequent modules includes the following issues: 1. Health - definition of health and disease and the most important diseases of civilization; 2. Medical and emergency medicine diagnostics - the most important methods and indicators; 3. Diagnostics of cardiovascular diseases: the most important diseases, tools and techniques of diagnostics; 4. Diagnostics of neoplastic diseases: the most important diseases, tools and techniques of diagnostics and treatment; 5. Diagnostics of endocrine diseases: the most important diseases, tools and techniques of diagnostics; 6. Diagnostics of digestive system diseases: the most important diseases, tools and techniques of diagnostics; 7. Diagnostics of nervous system diseases: the most important diseases, tools and techniques of diagnostics, 8. Rehabilitation devices - possibilities and technical limitations; 9. Medical diagnostic systems in the context of selected diseases: X-ray, ultrasound, CT, MRI; 10. Medical robots as tools of modern surgical interventions and rehabilitation; 11. A tool supporting physician diagnostics in the context of the basics of patient's subjective, objective examination emergency medicine; 12. Family medicine: the essence of the work of family doctors and its place in the health care system; 13. Infectious diseases: basics of diagnostics, treatment and prevention (specific protection in the form of vaccinations); 14. Pharmacology: preparation of drugs, the effect of drugs on the body; 15. The harmful effects of pseudomedicine.
Prerequisites and co-requisites	General knowledge of human anatomy and physiology.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final exam	60.0%	100.0%

Recommended reading

Basic literature	1. McMaster Textbook of Internal Medicine, Paul M. O'Byrne, Wydawnictwo eMPendium, 2024 2. Oxford Handbook of Emergency Medicine, Jonathan P. Wyatt, Wydawnictwo Oxford, 2024
Supplementary literature	1. Pearce LMN, Pryor J, Redhead J, Sherrington C, Hassett L, Advanced Technology in a Real-World Rehabilitation Setting: Longitudinal Observational Study on Clinician Adoption and Implementation J Med Internet Res 2024 doi: 10.2196/60374. 2. Chow JCL, Li K, Ethical Considerations in Human-Centered AI: Advancing Oncology Chatbots Through Large Language Models JMIR Bioinform Biotech 2024 doi: 10.2196/64406.
eResources addresses	Supplementary https://radiopaedia.org/ - A free, open-edit, peer-reviewed online radiology resource.

Example issues/ example questions/ tasks being completed	1. Scope of competence of a family doctor. 2. How the healthcare system functions in Poland. 3. Invasive and non-invasive diagnostic imaging methods - types of devices and examples of applications. 4. Applications supporting the work of a doctor. 5. Consequences of pseudo-medicine. 6. Alarm symptoms of cancer - how to spot them, how to rule them out and when not to ignore them. 7. Basic life support - BLS.
Practical activites within the subject	Not applicable

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