



Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE (SUBJECT) General Information

Module title: Biophysics 2021/2022	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Medicine
Level of study	long-cycle (S2J)
Mode of study	full-time studies
Year of studies, semester	Year 1, semester I
ECTS credits (incl. semester breakdown)	2,5
Type/s of training	seminars (35h)
Form of assessment*	<input checked="" type="checkbox"/> graded assessment: <ul style="list-style-type: none"> <input type="checkbox"/> descriptive <input checked="" type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral <input type="checkbox"/> non-graded assessment <input type="checkbox"/> final examination <ul style="list-style-type: none"> <input type="checkbox"/> descriptive <input type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral
Head of the Department/ Clinic, Unit	Dr hab. n. med. Wojciech Podraza, podrazaw@pum.edu.pl
Tutor responsible for the module	Dr hab. n. med. Wojciech Podraza, podrazaw@pum.edu.pl
Department's website	https://www.pum.edu.pl/wydzialy/wydzial-lekarsko-biotechnologiczny/zaklad-fizyki-medycznej/information-for-students
Language	English

* replace ☐ into ☒ where applicable

Detailed information

Module objectives		Lectures and exercises are designed to introduce students to the basic issues of physics and biophysics regarding the physical foundations of physiological processes and to familiarize themselves with the physical phenomena underlying modern medical diagnostics and therapy in medicine.
Prerequisite /essential requirements	Knowledge	physics and mathematics at the matriculation level
	Skills	is able to define and estimate the measurement error, graphically present the results of measurements, know the basic mathematical functions, know the operations on exponents and logarithms
	Competences	openness to knowledge, self-study habit, willingness to cooperate in a group, teamwork skills

Booklist

Obligatory literature:

1. Cameron J., Skofronick J.G., Grant R.M.: Physics of the Body, Medical Physics Publishing 1992

Supplementary literature:

1. „PHYSICS Principles with applications” Douglas C. Giancoli

TEACHING PROGRAMME**SEMINARS**

Sem 1 (2h)	Radiation I.
Sem 2 (2h)	Radiation II.
Sem 3 (2h)	Spectroscopy.
Sem 4 (2h)	Lasers, photometry and optical fibers.
Sem 5 (2h)	Radiotherapy.
Sem 6 (2h)	Biophysics of the process of seeing and hearing.
Sem 7 (2h)	Lungs and breathing.
Sem 8 (2h)	Medical diagnostics.
Sem 9 (2h)	Ultrasound in medicine.
Sem 10 (2h)	Radiation protection in medicine.
Sem 11 (2h)	Influence of physical factors on human body.
Sem 12 (2h)	Metrology in medicine.

Student's workload	
Form of student's activity (in-class participation; activeness, produce a report, etc.)	Student's workload [h]
	Tutor
Contact hours with the tutor	35
Time spent on preparation to seminars/ practical classess	5
Time spent on reading recommended literature	5
Time spent on writing report/making project	5
Time spent on preparing to colloquium	10
Time spent on preparing to exam	
Other	
Student's workload in total	60
ECTS credits for the subject (in total)	2,5
Remarks	