

**Topics of lectures on Biophysics for students
of General medicine
Academic year 2025/2026**

WEEK:	Num:	TOPIC:
1.	1.	Biophysics and medicine
	2.	Structure of matter
2.	3.	Absorption of electromagnetic radiation
	4.	Pulse oximetry
3.	5.	Nuclear radiation in medicine
	6.	Ionizing radiation and radiotherapy
4.	7.	Positron emission tomography I.
	8.	Positron emission tomography II.
5.	9.	X rays – the nature and physical properties
	10.	Conventional radiography and CT
6.	11.	Ultrasound – physical characteristics and generation
	12.	Medical application of ultrasound
7.	13.	<i>Study control – written test I.</i>
	14.	<i>Study control – written test II.</i>
8.	15.	Magnetic resonance imaging
	16.	Nuclear magnetic resonance in medicine
9.	17.	Introduction to molecular biophysics
	18.	Transport processes – flow, free diffusion, osmosis
10.	19.	Biophysics of cardiovascular system I.
	20.	Biophysics of cardiovascular system II.
11.	21.	Membrane biophysics
	22.	Bioelectricity
12.	23.	Lasers in medicine I.
	24.	Lasers in medicine II.
13.	25.	Biomechanics I.
	26.	Biomechanics II.
14.	27.	Virtual reality in medicine
	28.	Nanotechnologies in medicine