

**PLAN
OF LABORATORY AND PRACTICAL WORKS
OF MEDICAL AND BIOLOGICAL PHYSICS
FOR STUDENTS OF THE 1ST YEAR IN THE 2ND SEMESTER
OF THE 2023/2024 ACADEMIC YEAR**

Week #	Group number			Date
	101a, 104a, 108a	107a, 106a	102a, 103a, 105a,	
1.	LW 14 room 403a	LW 15 room 401	LW 16 room 403	12.02-17.02.2024
2.	LW 13 room 407	LW 16 room 403	LW 15 room 401	19.02-24.02.2024
3.	LW 16 room 403	LW 13 room 407	LW 14 room 403a	26.02-02.03.2024
4.	LW 15 room 401	PW 5 room 407	PW 5 room 403a	04.03-09.03.2024
5.	PW 5 room 401	LW 14 room 403a	LW 13 room 407	11.03-16.03.2024
6.	LW 18 room 401	LW 19 room 403a	PW 6 room 403	18.03-23.03.2024
7.	LW 19 room 403a	LW 17 room 407	LW 18 room 401	25.03-30.03.2024
8.	LW 17 room 407	PW 6 room 403	LW 19 room 403a	01.04-06.04.2024
9.	PW 6 room 403	LW 18 room 401	LW 17 ауд.407	08.04-13.04.2024
10.	PW 7 room 403	PW 7 room 401	PW 7 room 407	15.04-20.04.2024
11.	Control test # 3			22.04-27.04.2024
12.	PW 8 room 403a	LW 21 room 407	PW 8 room 401	29.04-04.05.2024
13.	PW 9 room 403a	LW 20 room 403	PW 9 room 401	06.05-11.05.2024
14.	LW 21 room 407	PW 8 room 403a	LW 20 room 403	13.05-18.05.2024
15.	LW 20 room 403	PW 9 room 403a	LW 21 room 407	20.05-25.05.2024
16.	PW 10 room 403	PW 10 room 403a	PW 10 room 407	27.05-01.06.2024
17.	Control test # 4			03.06 -08.06.2024

Head of the department

Boris K. Kuznetsov

**LIST OF LABORATORY AND PRACTICAL WORKS
MEDICAL AND BIOLOGICAL PHYSICS
IN THE 2ND SEMESTER
OF THE 2023/2024 ACADEMIC YEAR**

Laboratory work 13. Determination of the rotation angle of polarization plane for optically active solutions using polarimeter. Study of the concentration dependence of the solution rotation angle.

Laboratory work 14. Measurement of the solution refractive index using refractometer. Study of the concentration dependence of the solution refractive index

Laboratory work 15. Determination of the resolution limit of microscope objective lens

Laboratory work 16. Spectrophotometric analysis of potassium permanganate solutions

Laboratory work 17. Calibration of a spectroscope. Analysis of the spectra using spectroscope

Laboratory work 18. Analysis of the luminescence spectrum of fluorescein

Laboratory work 19. Determination of He-Ne laser wavelength using the diffraction grating.

Determination of an erythrocyte size using laser radiation diffraction on blood sample.

Laboratory work 20. Determination of the specific activity of radionuclide in food products

Laboratory work 21. Measurement of the activity of radionuclide incorporated in the human body

Practical work 5. Geometric optics. Microscopy. Optical system of the human eye.

Practical work 6. Heat radiation

Practical work 7. Physics of atoms and molecules. Action of optical range radiation on biological objects

Practical work 8. Radioactivity

Practical work 9. X-rays. Physical bases of X-ray diagnostics and therapy.

Practical work 10. Dosimetry of ionizing radiation