

Topics of practical exercises on biophysics for students of General Medicine Academic Year 2025/2026

WEEK : TOPIC:

1. Organization of practical exercises
Introduction to measurement. Errors of measurement

2. – 4. a) Spectrophotometry
b) Electrocardiography I – Construction of the mean electrical axis of the QRS complex
c) Conductometry – the dependence of solution conductivity on the concentration

5. – 7. a) Monitoring of basic vital functions
b) Eye optics. Visual acuity. Figures of Snellen. Measurement of lens parameters
c) Osmometry

8. Permanent study check – seminar (45 min)

8. – 10. a) Modelling of basic vital functions on the model system
b) The principles of sensors in medicine – pulse and blood pressure measurement using different techniques. Modelling of invasive blood pressure measurement.
c) Pulse oximetry

11. – 13. a) Use of ultrasound in medicine – measurement of the blood flow velocity
b) Sound and hearing. Audiometry. Intensity and loudness
c) Electrocardiography II – Rate and rhythm changes in the ECG associated with the body position and breathing

14. Evaluation of study results. Final repairing test

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