

Topics of practical exercises on biophysics for students of General Medicine Academic Year 2024/2025

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

Associate Professor Ján Sabo Ph.D.
Department of Medical and Clinical Biophysics