

**Topics of practical exercises on biophysics for students
of general medicine
Academic year 2023/2024**

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