

BFİZ 101- BIOPHYSICS

Prof. Dr.Belgin Büyükakıllı, Prof. Dr. Ülkü Çömelekoğlu, Prof. Dr. Nurten Erdal

1. Term

1. week	Introduction to biophysics, basic concepts of biophysics. Measuring and unit systems
2. week	Biomechanical concepts and chin and bone biomechanics.
3. week	Mechanism of the circulatory system. Biophysical measure and observation tools
4. week	Respiratory system mechanics. Biophysical measure and observation tools
5. week	Bioelectrical concepts. Spectroscopy and spectroscopic analysis methods
6. week	Cell membrane, structure and electrical properties. Diffusion and osmosis
7. week	Resting membrane potential and action potential. Nerve action potential recording and analysis
8. week	Synaptic transmission and synaptic potential. Nerve action potential recording and analysis
9. week	Skeletal conduction and contraction. Electromyography and contraction in the skeleton
10. week	Brain potentials and biophysical principles of EEG. Recording of brain electrical activity
11. week	Biophysical bases of ECG. In situ cardiac preparation and electrocardiography
12. week	Brain potentials and biophysical principles of EEG. Recording of brain electrical activity
13. week	Sensory biophysics, vision and hearing system. Electrooculography and audiometry.
14. week	Mid-term Exam
15. week	Radiation biophysics. Sources of electromagnetic field in the environment
16. week	Physics of imaging methods in dentistry.