Level: bachelor

Course title: Biophysics

Status: elective

ECTS: 6

Requirements: none

Learning objectives

Qualifying students for indirect inclusion into modern aspects of research of one of the youngest multidisciplinary areas.

Learning outcomes

Introduction to the laws of natural occurrences and properties of materials based on the application in modern biophysical problems.

Syllabus

Theoretical instruction

Structure, synthesis and characterization of biopolymers, genetic code problem, ferment – substrate interactions (molecular recognition), physics of membrane and nerve impulse, locomotor system and biomechanical processes, electrophysiology of EKG, EEG and MEG signals, interaction of organism and environment, non-equilibrium thermodynamics of bio-system, elements of neural networks, biomaterials, nano-medicine and nano-pharmacy, application of electromagnetic radiation and radioactive radiation in food technology, basic pollution of air and water, sample dating, biophysics of homeopathy.

Practical instruction

Solving practical problems related to this area of science.

Weekly teaching load				Other:
Lectures: 3	Exercises: 2	Other forms of teaching: 1	Student research: obligatory seminar	