Doctoral School: **Biology Doctoral School**
Doctoral Program: Neuroscience and Human Biology

Subject code: **BIO/7/1**
Subject title: **Molecular biology of learning and memory L**
Teacher and Neptun code: **Dr. Borbély Sándor (EYBFOV)**
Credits: 4
Class hours: 2 hours/week, lecture

Aim of the course
The aim of the lecture is to review the intracellular processes, molecular and biochemical mechanisms underlying learning and memory functions.
Course content
The simplest forms of synaptic plasticity are presynaptic inhibition and facilitation.
Cellular mechanisms of habituation and sensitization.
Principles of associative learning. Molecular mechanisms of short- and long-term associative learning. Long-term potentiation (LTP): a long-term increase in synaptic efficiency.
Long-term depression (LTD): a prolonged decrease in synaptic efficiency.
Homeostatic plasticity.
Use of optogenetics in memory research.
Requirements
written exam

Literature

lecture slides are available