Study programme: **BSc in Ecology**

Level: **Bachelor degree**

Course title: BASIC ANIMAL PHYSIOLOGY

Lecturers: Prof. Dr Tatjana Kostić, Prof. Dr Silvana Andrić

Status: **Required**

ECTS: **6**

Requirements: -

Learning objectives

Objective of this course is to enable students to understand fundamental principles in survival of organism in changeable environmental conditions.

Learning outcomes

At the end of this course, students will be able to understand and describe basic principles in functioning of animals as integrated systems on the each level of functional organization.

Syllabus

Theoretical instruction

Physiology of membrane transport. Action potential. Basic principles of the function of skeletal and cardiac muscle. Synaptic transmission. Basic principles in perception and receptors. Reflex arc and reflexes. Function of the autonomic nervous system. Central regulation of visceral function. Comparative overview and function of circulatory, respiratory, gastrointestinal and excretory system. Basic principles in physiology of endocrine system.

Practical instruction

Membrane transports. Experiments on nerve-muscle frog preparation and frog heart preparation *in situ*. Computer simulations of functions of nerve and muscle cell. Hemolymph and heart rhythm in snail. Determination of number of cellular elements in peripheral blood of animals. Blood differential test. Physiology of respiratory, circulatory and digestive system. Qualitative and quantitative analysis of urea concentration in serum. Computer simulations of filtration and osmoregulation. Determination of phases of estrous cycle in female rats.

Recommended Literature:

Ganong WF (2005): *Review of Medical Physiology*. Lange/WCB McGraw-Hill Companies.

Additional Literature:

Germann WJ & Stanfield CL (2005): *Principles of Human Physiology*. Pearson Education & Benjamin Cummings.

Kovacevic R, Kostic T, Andric S, Zoric S. (2005): *General Animal Physiology (script)*. WUS Austria.

Andric S, Kostic T, Andric N, Zoric S. (2005): *Comparative Animal Physiology (script)*. WUS Austria.

Weekly teaching load				Other:
Lectures: 3	Exercises:	Other forms of teaching: 3	Student research:	

Teaching methodology

Theoretical part - Lectures

Practical part – Combination of laboratory work and computer simulations

Grading method (total number of points 100)

Pre-exam obligations	**points**	**Final exam**	**points**
Practical problems	up to 30	Oral exam	up to 20
Tests	up to 50		