UNIVERSITY
OF WARMIA AND MAZURY
IN OLSZTYN

Faculty of Biology and Biotechnology

Course title: GENERAL ZOOLOGY

ECTS credit allocation (and other scores): 5

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Natural sciences

Language: English

Number of hours per semester: 60

Course coordinator/ Department and e-mail: Dorota Juchno, Maciej Równiak; juchno@uwm.edu.pl

Type of classes: classes and lectures

Substantive content

CLASSES: Principles of proper microscopic analysis of histological slides and characteristic features of tissues and organs in animals and humans. Documentation of the microscopic image in the form of a drawing with a description according to the instructions. Recognition of tissues and organs under a microscope on the basis of histological slides. Protozoa: characteristics and classification. Developmental patterns among the Metazoa on the example of sea urchin (Echinoidea) development. Invertebrate and vertebrate body plan based on the different examples (cockroach and fish section). Comparison of body coverage and construction of internal systems in representatives of animals.

LECTURES: Types, structure, location and functions of the animal tissues: epithelial, connective, muscle and nerve. Types of organs in animals and human. Histology of the digestive, respiratory, circulatory, lymphatic, urinary, reproductive, endocrine, nervous and integumentary systems. The importance of histology in diagnostics.
Origin of multicellular animals. Animal body plans. Functional morphology of animals in response to the impact of environmental factors. Animal body cover, skeleton - examples and functions. The nervous system and selected organs of the senses. Organs for internal transport and gas exchange. Construction of the digestive system and excretion. Reproductive systems.
Learning purpose: Understanding the microscopic structure of organs and comparative analysis of functional morphology in animals.

On completion of the study programme the graduate will gain:

Knowledge: Characterizes and distinguishes tissues and organs; knows and understands the functioning of structure of animals.

Skills: Recognizes specific tissue and organ structures; knows how to dissect selected animals, describe their organs.

Social Competencies:

Student works separately and in a group; observes the rules of ethics; seeks to expand knowledge of the subject.

Basic literature:

1) James S. Lowe & Peter G. Anderson. Human Histology. Mosby Ltd. 2015.

2) Robert L. Sorenson T. Clark Brelje Atlas of Human Histology. A Guide to Microscopic Structure of Cells, Tissues and Organs. University of Minnesota Bookstore. 2014.
3) Dennis Holley. General Zoology. 2015. Dog ear Publishing. 818pp.
4) Dennis Holley. General Zoology. Laboratory manual. 2016. Dog ear Publishing. 432 pp.
5) Karel F. Liem, Warren Franklin Walker, 2001r., "Functional anatomy of the vertebrates: an evolutionary perspective", wyd. Harcourt College Publishers, t.1, pp.703.
6) R. C. Brusca, W. Moore, S. M. Shuster. 2016. "Invertebrates 3nd edition", wyd. Sinauer Associates; 1104 pp.

Supplementary literature:

1) Michael H. Ross Wojciech Pawlina. Histology: A Text and Atlas, with Correlated Cell and Molecular Biology 6th Edition. Wolters Kluver/Lippincott Williams and Wilkins 2011.
2) Leslie Gartner Textbook of Histology 4th Edition Elsevier 2016.
3) R. C. Brusca, W. Moore, S. M. Shuster. 2016. "Invertebrates 3nd edition", wyd. Sinauer Associates; 1104 pp.

The allocated number of ECTS points consists of:

Contact hours with an academic teacher:
participation in: laboratory classes 30 h.
participation in: lecture 30 h.
consultation: 2h.

Student's independent work:
preparation for tests: 20 h
preparation for classes: 18 h
preparation for the final exam: 25 h