

Course title: IMMUNOENZYMATIC TECHNIQUES

ECTS credit allocation (and other scores): 2

Semester: spring

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

Branch of science: Natural sciences

Language: English

Number of hours per semester: 25 h.

Course coordinator/ Department and e-mail: dr Marta Kieżun; Department of Animal Anatomy and Physiology;
marta.kiezun@uwm.edu.pl

Type of classes: classes and lectures

Substantive content

LECTURES: Planning and conducting experiments using various immunoenzymatic techniques. Collection and fixation of material for immunohistochemical investigations. Preparation of preparations with a microtome. Detection of antigens in histochemical preparations with primary and/or secondary antibodies conjugated with enzymes. Microscopic observation and digital archiving. Coating of plates for immunoenzymatic analyzes - ELISA, with antibodies. Creation of a standard curve. Detection of specific proteins in the analyzed material using antibodies conjugated with enzymes. Performing spectrophotometric analyzes and processing the results using a computer program.

CLASSES: Enzymatic markers of antibodies. Preparation of material for immunoenzymatic reactions. Immunoenzymatic reactions. Detection of marker enzymes. Control reactions. Methodological problems. Parallel detection of several antigens. Immunoenzymatic methods.

LEARNING PURPOSE: Ability to apply various immunoenzymatic methods, interpret results and use specialized literature to describe and report problems related to immunoenzymatic techniques.

On completion of the study programme the graduate will gain:

KNOWLEDGE: student is able to explain the principles of immunoenzymatic techniques, knows and defines the enzymatic processes that take place during the experiments performed, knows the basic principles of occupational health and safety.

SKILLS: The student is able to plan and carry out an experiment using immunoenzymatic techniques, can interpret the results of the experiments carried out and uses bioinformatics programs for data analysis.

SOCIAL COMPETENCIES: The student is aware of the need for continuous learning and improvement of his/her qualifications, has the ability to work in a team and is responsible in the handling of biological material.

Basic literature: 1. Maciej Zabel, Immunocytochemia, Wyd. PWN, R. 1999

Supplementary literature: 1. Litwin J.A., Podstawy technik mikroskopowych,, Wyd. U J, Kraków, R. 1999

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 26 h.

Student's independent work: 24 h.