KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY

Course title	ECTS code
Introduction to experimental medicine	12.0.0386

Name of unit administrating study

Intercollegiate Faculty of Biotechnology UG-MUG

Studies

faculty	field of study		
Intercollegiate Faculty of Biotechnology UG-MUG	Biotechnology	type	second tier studies (MA)
		form	full-time
		specialty	all
		specialization	all

Teaching staff

dr Aleksandra Markiewicz

Forms of classes, the realization and number of hours

Forms of classes

Proseminar

The realization of activities

classroom instruction

Number of hours

Proseminar: 30 hours

ECTS credits

2

The academic cycle

2021/2022 winter semester

Type of course

an elective course

Language of instruction

english

Teaching methods

- seminars with multimedia presentation
- individual consultation with the lecturer
- individual work of the student

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Graded credit

Assessment methods

- written exam with multiple choice and open questions (part 1)
- student's own work - preparation of a project or presentation based on the topic given by the teacher (part 2)

The basic criteria for evaluation

Exam will cover the topics listed under „Treści programowe” and all study effects indicated in the field "Efekt kształcenia" and described in "Cele kształcenia". The final grade will be given based on the written exam (part 1) and own project/presentation (part 2).
The student must receive a positive grade from every graded element of the subject. The final grade will be an average from the written exam (80% of the grade, part 1) and project /presentation (20% of the grade, part 2). Grades will be given according to the regulations of the University of Gdansk.

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements
no formal requirements

B. Prerequisites
no preliminary requirements

Aims of education

The aim of the subject is to familiarize the students with the research approach and methods used in the analysis and validation of molecular markers with potential utility in medical clinical practice.
During the course the student will:
K_W01 - show the knowledge of tools and research models used for the characterization and evaluation of the biological and clinical significance of a molecular marker.
K_W02 - Acquire the knowledge concerning the analysis of clinical trials results as well as statistical tests necessary to evaluate the results of molecular in vitro and in vivo tests used in validation of a molecular marker.
K_U06 - Show the correct usage of specialized terminology from the field of molecular diagnostics, clinical trials, statistical analysis and precision medicine.
K_K03 - Acquire skills allowing planning and presenting the research path aiming at proving the biological and clinical utility of molecular marker in precision medicine.

Course contents

1. Types of molecular markers.
2. Tools for the analysis of cells, RNA, DNA and proteins.
3. Preparation of samples for the analysis.
4. Methodology of work with clinical material.
5. In vitro tests.
6. tests using animal models.
7. Clinical studies.
8. Evaluation of utility of molecular markers in medicine.
9. Analysis of results of molecular markers tests.
10. Statistical analysis.
11. Molecular markers in medicine - from bench to bedside.

Bibliography of literature

Biologia molekularna w medycynie; Jerzy Bal
Biomarker Tests for Molecularly Targeted Therapies: Key to Unlocking Precision Medicine; Graig LA, Phillips JK, Moses HL,

The learning outcomes (for the field of study and specialization)

K_W01
K_W02
K_U06
K_K03

Knowledge

K_W01 - Understands complex biological phenomena on the molecular level, knows their significance for biotechnology and their relationships with other areas and disciplines of science
K_W02 - Possesses a deepened knowledge in the field of related scientific areas and disciplines allowing him to see connections and dependencies in nature, in particular those essential for biotechnology

Skills

K_U06- Uses scientific language, including specialist terminology and notional apparatus proper for biotechnology and related areas and disciplines

Social competence

K_K03 - Effectively plans his/her work, professional career, organizes his/her work, in particular in the lab or concerning reviews in the field of biotechnology and related scientific areas and disciplines

Contact

aleksandra.markiewicz@biotech.ug.edu.pl