(SYLABUS)

Name of the department / clinic providing the course:

Departament of Immunopathology

Course title: Biotechnologia

Course profile: practical

Speciality: Medical Biotechnology

Level of course unit: 2nd grade

Course unit title: Pracownia Practice rotation - A practical approach to meta - analysis utilizing the Cochrane Foundation Standard

Course unit code:

Type of course unit: optional

Course aims:

The aim of the course will be to use the knowledge gained during the level 2 studies to analyze the state of the art and literature and design a meta-analysis

Form of study: Stacjonarne

Year of study: 2

Types of educational activities and number of hours allocated:

Subject	Language course	Self-study	Lecture	Exercises	Laboratory	Seminar	Practical	e-learning	Profession practice	Other (what?)	ECTS points
		74					76				5

Number of ECTS credits allocated and their structure according to students' from of learning:

Names of course unit's faculty:

dr n. med. Monika Marko

Prerequisites:

Before taking the exam, you must have passed: Not applicable

Learning activities and teaching methods:

In silico practical tasks, group discussion, trouble shooting, literature and data analysis, data interpretation

Course unit content:

1. Introduction to meta-analyzes according to Cochrane Foundation Standard. Planning and defining the purpose of the review (preliminary search), developing criteria for including studies (8h)
2. Designing search strategies. Full searching for studies using databases (PubMed, EMBASE, The Cochrane Central Register of Controlled Trials) (8h)
3. Selecting studies. Prisma Flow Diagram. Part I (8h)
4. Selecting studies. Prisma Flow Diagram. Part II (8h)
5. Data extraction. What data should be collected? (8h)
6. Evaluation of collected data. Assessing and presentation risk of bias in included studies using Review Manager (8h)
7. Types of data and effect measures. Principles of meta-analysis. A summary of meta-analysis methods available in Review Manager. Forest plots in Review Manager (8h)
8. Identifying and measuring heterogeneity. Strategies for addressing heterogeneity (8h)
9. Types of reporting biases. Funnel plot in Review Manager (8h)
10. Summary and discussion of the meta-analyzes. Final test (4h)

Course objectives:

Knowledge:

- BM2_PO_W07 Student is familiar with specialized IT and biostatistical tools
- BM2_PO_W10 Student knows the bioinformatics techniques and methods used to solve problems in medicine and pharmacy as well as in clinical research
- BM2_PO_W18 Student knows and understands the basic ethical and legal conditions related to scientific, teaching and implementation activities as well as kinetic research

Skills:

- BM2_PO_U01 Students, using their knowledge, plan and carry out research tasks using large-scale techniques, analytical methods, computer simulations
- BM2_PO_U05 Student speaks English at B2+ level in the biomedical sciences, in particular medicine and biology and biotechnology, clinical research and drug production
- BM2_PO_U07 Student uses and integrates information obtained from the literature and electronic databases, analyses, interprets and critically evaluates it BM2_PO_U10 Student can critically appraise the relevance and applicability of new developments and data in the fields of medicine, pharmacy, biotechnology and bioinformatics

Attitudes and transferrable (generic) competencies:

- BM2_PO_K01 Student understands the need for lifelong learning; is able to activate, inspire and organize the learning process of others. Student regularly update his/her knowledge in the fields of biology, pathology, medicine and biotechnology and see the possibilities of its practical application
- BM2_PO_K02 Student can interact and work in a group, both as a team leader and a member of a team
- BM2_PO_K03 Student is able to correctly identify priorities in order to accomplish a task defined by him/herself or others BM2_PO_K04 Student is able to correctly identify and solve ethical dilemmas related to his/her profession; is aware of his/her responsibility for making decisions

Required and recommended learning resources (readings):

Required:

Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.4 (updated August 2023). Cochrane, 2023. Available from www.training.cochrane.org/handbook

Recommended:

Introduction to Meta-Analysis 2nd Edition by Michael Borenstein ISBN 1119558352

Assessment methods and criteria:

Students will be obligated to pass a colloquium. As part of the colloquium, students will be given problem tasks which they will have to solve independently. A minimum of 60% will be required to pass the colloquium.

(1) Attendance at all prectices are mandatory.

2. the Student is entitled to one absence during the course. In case of having an excused absence, the Student has the right to earn credits from these classes at another time.

(3) Any absence in excess of one absence, the Student is required to excuse. The only valid excuse is a medical exemption. In addition, each such absence must be made up or credited on the basis of an essay within 7 days (subject of the class or determined by the instructor, 6 pages, about 17 thousand characters with spaces, font 12 pt. interline 1.5, at least 10 items of bibliography from the last 5 years).

Additional information:

Statement and signature of the course leader:

I hereby state that the content of the curriculum included in the syllabus below is the result of my individual work completed as part of work contract/cooperation resulting from a civil law contract, and that author rights to this title are not the property of a third party.

Dean’s signature:

Data: