Załącznik nr 5 do zarządzenia nr 189/2025

COURSE SPECIFICATION

Course code: 0912-7LEK-B2.9-Mbm
Course title in Polish: Metodologia badań naukowych z elementami biostatystyki w medycynie
Course title in English: Methodology of scientific research with elements of biostatistics in medicine

1. Placement of the course within the study programme

1.1. Field of study	Medical
1.2. Mode of study	Full-time
1.3. Level of study	Uniform Master's studies
1.4. Profile of study	General academic
1.5. Course specification author	dr hab. Beata Kręcisz prof. UJK
1.6. Contact	Dr n med. Piotr Łacwik

2. Generał characteristics of the course

2.1. Language of instruction	Polish
2.2. Entry requirements	lack

3. Detailed characteristics of the course

3.1. Type of classes	Lecture -5 (including 3 h of e-learning), classes- 10
3.2. Place of course delivery	Traditional classes in the classroom WLiNoZ UJK
3.3. Form of assessment	Credit with grade
3.4. **Teaching methods**	Information lecture, Lectures are mandatory in accordance with Chapter III, §7, subsection 3, point 2.
3.5.a. Basic reading list	1) Supino P. G. Borer J.S., Principles of Research Methodology: A Guide For Clinical Investigators, Springer New York Heidelberg Dordrecht London 2) Brink H, Walt C van der, Rensburg G van. Fundamental of Research Methodology for Healthcare Professionals 4th ed. edition. Juta & Company Ltd; 2018. 3) Hanna M. How to Write Better Medical Papers. Springer International Publishing; 2019. doi:10.1007/978-3-030-02955-5
3.5.b. Supplementary reading list	1)Scientific Journals 2) Medical databases

4. Objectives, content and learning outcomes

4.1. Course objectives (taking into account the form of classes)

Lectures

C1 – Learning the principles of practical application of Evidence Based Medicine.
C2 – Preparation for critical appraisal of scientific studies and reports
C2 – Stimulating awareness of the significance and impach of scientific research on guiding decisions in clinical practice.

4.2. Detailed syllabus

Lectures

1. Methodological scientific approach- definitions
2. Types of scientific studies and their application in medicine
3. Quantification in scientific studies. Choosing a study sample.

4. Copyright protection and ethical principles in scientific research.
5. Types of scientific publications.
6. Application of evidence based medicine in clinical practice.

Classes

1. Principles of medical publication preparation in medicine, healthcare systemic and public health. The structure of scientific publication, language, presentation, editing, Critical appraisal of current guidelines, thesis and scientific publications.
2. Principles of scientific empirical study. Stages of research development and implementation
3. Aims and research ideas, variables, hypotheses- definitions and study development principles.
4. Collecting scientific data- methods, techniques and tools. Implementation of quantification methods in medical research. Preparation of questionnaires. Picking a sample.
5. Conducting research and data preparation. Building databases and statistical analysis.
6. Principles of scientific publication preparation. Analysis of scientific publications and publishing guidelines in international journals.

4.3 Course learning outcomes

Course learning outcomes (code)	Upon completion of the course, the student	Alignment with programme learning outcomes
in the area of **KNOWLEDGE**, the graduate knows how to:		
W01	knows the principles of conducting scientific research, observational and experimental and in vitro studies aimed at the development of medicine.	B.W34.
W02	knows the foundations of evidence-based medicine.	D.W20.
W03	knows and understand the causes, symptoms, principles of diagnosis and therapeutic management of common diseases and specific problems in general practice;	E.W36.
in the area of **ABILITIES**, the graduate knows how to:		
U01	plans and performs basic scientific research, interprets the results and draws conclusions.	B.U14.
U02	is responsible for improving his/her skills and transfers knowledge to others;	D.U15.
in the area of social competences:		
K01	establish and maintain deep and respectful contact with the patient and show understanding towards ideological and cultural differences;	H.S1.
K02	do what is right for the patient;	H.S2.
K03	respect medical confidentiality and patient's rights;	H.S3.
K04	take actions concerning the patient on the basis of ethical principles, being aware of social conditions and restrictions resulting from illness;	H.S4.
K05	recognize his/her own limitations and self-evaluate educational deficiencies and needs;	H.S5.
K06	promote healthy lifestyle;	H.S6.
K07	use reliable information sources;	H.S7.
K08	conclude on the basis of own surveys and observations;	H.S8.
K09	introduce rules of social conduct and teamwork to the group of specialists, including specialists form other medical professions also in the multicultural and multinational environment;	H.S9.
K10	give opinions concerning various aspects of professional activity;	H.S10.
K11	take responsibility for own decisions made during professional activities including own safety and safety of other people;	H.S11.

4.4 Assessment methods for learning outcomes

Assessment method (+/-)

Course learning outcomes (code)	Oral/written/ practical examinaion /other (specify)*	Test*	Project*	In-class activity*	Independent study*	Group work*	Other (specify)*

Type of classes

1: / 2:	L	S	CP	L	S	PC	L	S	PC	L	S	PC	L	S	PC	L	S	PC	L	S	PC
W01				+																	
W02				+																	
W03				+																	
U01				+																	
U02				+																	
K01-K11				+																	

Annotation. 1: form of classes; 2: learning outcomes

4.5 Assessment criteria for learning outcomes

Type of classes:

Lectures (L) (including classes conducted with the use of distance learning methods and techniques)

Grade	Assessment criteria
3,0	61%-68%
3,5	Test. Mastering the program content at the basic level
4,0	69%-76% Test- Mastering the program content at the basic level, systematized answers
4,5	77%-84% Test. Mastering the program content at the basic level, systematized answers. Problem solving in typical situations.
5,0	85%-92% Test The scope of the presented knowledge goes beyond the basic level, based on the supplementary and provide literature. Problem solving in new and complex situations.

5. ECTS credit allocation – student workload

Category	Student workload (full-time mode)
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER (CONTACT HOURS)	**15**
Participation in lectures*	**5**
Participation in seminars/laboratories*	**10**
Other (specify) e.g. classes conducted with the use of distance learning methods and techniques*	
INDEPENDENT STUDY (NON-CONTACT HOURS)	**10**
Preparation for lectures*	**5**
Preparation for seminars/laboratories*	**5**
Preparation for examination/test*	
Gathering materials for project, online research*	
Preparation of a multimedia presentation*	
Other (specify)*	
TOTAL HOURS	**25**
ECTS CREDITS for the course	**1**

***** e-learning (without participation of the lecturer)

Approved for implementation (date and legible signatures of course instructors in the given academic year):

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