



Basics of methodology and scientific writing

1. IMPRINT	
Academic Year	2021/2022
Department	Faculty of Medicine
Field of study	Doctoral School
Main scientific discipline <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	Medical sciences
Study Profile <i>(general academic / practical)</i>	General academic
Level of studies <i>(1st level / 2nd level / uniform MSc)</i>	3 rd level
Form of studies	Full time studies
Type of module / course <i>(obligatory / non-compulsory)</i>	Obligatory
Form of verification of learning outcomes <i>(exam / completion)</i>	Completion
Educational Unit / Educational Units <i>(and address / addresses of unit / units)</i>	Department of Methodology (1MN)

Head of Educational Unit / Heads of Educational Units	Prof. dr hab. n. med. Paweł Włodarski
Course coordinator (title, First Name, Last Name, contact)	Dr n. med. Wiktor Paskal, metodologia@wum.edu.pl
Person responsible for syllabus (First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported)	Dr n. med. Wiktor Paskal, metodologia@wum.edu.pl
Teachers	Dr n. med. Wiktor Paskal, lek. Kacper Pełka, lek. Albert Stachura, lek. Dawid Mehlich, lek. Klaudia Klicka

2. BASIC INFORMATION

Year and semester of studies	I, II semester	Number of ECTS credits	-
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)		5	
Seminar (S)			
Discussions (D)		15	
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions			

3. COURSE OBJECTIVES

O1	Adequate planning and selecting of a proper design for an individual study
O2	Adequate reporting of selected study designs, particularly systematic reviews, randomized controlled trials and observational studies
O3	Acquiring knowledge of basic methods used in pre-clinical research and their practical application
O4	Gaining skills necessary for writing a scientific manuscript in a correct, coherent and understandable way

4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING (concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)

<p>Code and number of effect of learning in accordance with standards of learning (in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</p>	<p>Effects in time</p>
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Knowledge – Graduate* knows and understands:

<p>P8S_WG</p>	<ul style="list-style-type: none"> - research methodology - rules of dissemination of scientific results - world-wide body of knowledge covering evidence-based medicine (EBM) and medical research methodology - main development trends in the medical disciplines, based on evidence-based medicine
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Skills– Graduate* is able to:

<p>P8S_UW</p>	<ul style="list-style-type: none"> - apply knowledge from the field of EBM to creatively identify, formulate and innovatively solve complex problems or research tasks and in particular: <ul style="list-style-type: none"> • Define the purpose and focus of scientific research • Formulate a research hypothesis - develop research methods, techniques and tools and apply them creatively - make inferences on the basis of scientific findings
<p>P8S_UO</p>	<p>Plans and carries out individual and team research or creative projects, also in an international environment</p>

* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate“, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)

<p>Number of effect of learning</p>	<p>Effects of learning in time</p>
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6. VERIFYING THE EFFECT OF LEARNING

Form of class	Class contents	Effects of Learning
L	Study design types – basics of EBM	P8S_WG
D	Proper study design selection	P8S_UW
L	Standards/guidelines of proper study results reporting	P8S_WG
D	Intersection of basic and pre-clinical research	P8S_UW, P8S_UO
L	Principles of effective scientific writing	P8S_WG
D	Principles of effective scientific writing	P8S_UW, P8S_UO

7. LITERATURE

Obligatory

Materials on the e-learning platform prepared by the Department of Methodology

Supplementary

- Podstawy EBM czyli Medycyny opartej na danych naukowych dla lekarzy i studentów medycyny. Pod red. Piotra Gajewskiego, Romana Jaeschke, Jana Brożka. Wyd. Medycyna praktyczna, Kraków 2008, wyd. 1.
- Medical databases and professional medical journals – Pubmed, Embase, Scopus, Cochrane, Web of Science.
- <https://online.stanford.edu/courses/som-y0010-writing-sciences>

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>
P8S_WG, P8S_UW, P8S_UO	Discussions and lectures (D, S) with an assistant: attendance, activity, realization of the topic, answering to the questions of the teacher and preparing a presentation on the last class.	Positive evaluation by the teacher.

9. ADDITIONAL INFORMATION *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*