

A COURSE SYLLABUS – DOCTORAL SCHOOL
REGARDING THE QUALIFICATION CYCLE FROM 2021 TO 2025

GENERAL INFORMATION ABOUT COURSE				
Course title	Scientific Research Methodology			
Name of the unit running the course	Doctoral School at University of Rzeszów			
Type of course (<i>obligatory, optional</i>)	Obligatory			
Year and semester of studies	1 st year, winter semester			
Discipline	Health Sciences			
Language of Course	Polish			
Name of Course coordinator	Anna Bartosiewicz PhD			
Name of Course lecturer	Anna Bartosiewicz PHD			
Prerequisites	Basic knowledge about conducting research and preparing scientific work. Basic IT and statistics skills.			
BRIEF DESCRIPTION OF COURSE (100-200 words)				
<p>The aim of the course Methodology of scientific research is to familiarize students with the basic concepts and assumptions of scientific research, and to provide knowledge enabling the planning and implementation of scientific research projects.</p> <p>Classes include an overview of basic research methods and tools. During the course, the student becomes familiar with the research process, starting from the correct formulation of the research problem and hypotheses, through the creation of a research plan, appropriate sample selection, data collection, and ending with data analysis, correct inference, and compliance with copyright. Additionally, classes include improving the ability to obtain materials from reliable sources (Evidence Based Practice - EBP).</p> <p>The conducted classes allow to prepare students to prepare their own scientific research in the field of health sciences and to independently develop and present their results.</p>				
COURSE LEARNING OUTCOMES AND METHODS OF EVALUATING LEARNING OUTCOMES				
Learning outcome	The description of the learning outcome defined for the course	Relation to the degree programme outcomes (symbol)	Learning Format (Lectures, classes,...)	Method of assessment of learning outcomes (e.g. test, oral exam, written exam, project,...)
Knowledge (no.) 1.	To the extent enabling a revision of the existing paradigms - global achievements, covering theoretical foundations as well as general issues and selected specific issues - appropriate for a scientific or artistic discipline	P8S-WG/1	Lecture	Colloquium/ exam
2.	Main trends development in scientific or artistic disciplines in which education takes place	P8S-WG/2	Lecture	Colloquium/ exam
3.	Methodology of scientific research	P8S-WG/3	Lecture	Colloquium/ exam
4.	Principles of disseminating the results of scientific activity, also in the open access mode	P8S-WG/4	Lecture	Colloquium/ exam

Skills (no.) 1.	To use knowledge from various fields of science or art to creatively identify and innovatively solve complex problems or perform research tasks, in particular: - define the purpose and subject of scientific research, formulate a research hypothesis, - develop methods, techniques, research tools and use them creatively - make conclusions based on scientific research	P8S-UW/1	Lecture	Colloquium/ exam
Social competence (no.) 1.	Is ready for a critical evaluation of the achievements within a given scientific	P8S-KK/1	Training	Colloquium/research project /writing exam
2.	Is ready for a critical evaluation of one's own contribution to the development of a given scientific discipline	P8S-KK/2	Training	Colloquium/research project /writing exam

LEARNING FORMAT – NUMBER OF HOURS

Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
I	10	20	–	–	–	0

METHODS OF INSTRUCTION

E.G, LECTURE: A PROBLEM-SOLVING LECTURE/A LECTURE SUPPORTED BY A MULTIMEDIA PRESENTATION/ DISTANCE LEARNING CLASSES: TEXT ANALYSIS AND DISCUSSION/PROJECT WORK (RESEARCH PROJECT, IMPLEMENTATION PROJECT, PRACTICAL PROJECT)/ GROUP WORK (PROBLEM SOLVING, CASE STUDY, DISCUSSION)/DIDACTIC GAMES/ DISTANCE LEARNING LABORATORY CLASSES: DESIGNING AND CONDUCTING EXPERIMENTS)

Lecture: Problem solving lecture supported by a multimedia presentation

Training: text analysis, discussion, research project, work at group – case study, problem solving, discussion, work with a book

COURSE CONTENT

1. Lectures/ Seminars:

- Introduction to the methodology; explanation of basic concepts and definitions. Types of research.
- Evidence-based research: Evidence Base Practice, Evidence Base Medicine, Evidence Base Nutrition.
- Methods and stages of scientific work
- Data collection and data storage. Scientific databases, repositories.
- Forms of presentation of research results. Basic of medical statistics.

1. Seminars / Lab classes/ others:

- Formulating the topic, purpose of the work, problems, and research hypotheses
- Methodology of scientific research in practical tasks.
- The structure of scientific work. Types of research papers
- Literature analysis. Scientific information sources. Principles of citing the literature.

- Ethical principles and authorship criteria.
- Methods, techniques, research tools. Principles of constructing original research tools.
- Preparing documents and application for a Bioethics Committee.
- Critical evaluation of scientific work, review principles of articles

COURSE ASSESSMENT CRITERIA

Lectures:

1. Attendance at lectures - minimum 70%

1. Colloquium

Training:

1. Participation and evaluation of the student's activity during the classes,

2. Assessment of preparation for classes,

3. Discussion during the exercises,

4. Checking knowledge during exercises,

5. Preparing project research

6. Colloquium

Rating range: 2.0 - 5.0

Methods of verifying learning outcomes in terms of knowledge:

Written test

Knowledge assessment:

Written test

5.0 - the student shows knowledge of each of the content of education at the level of 91% - 100%

4.5 - the student shows knowledge of each of the content of education at the level of 84% - 92%

4.0 - the student shows knowledge of each of the content of education at the level of 76% - 84%

3.5 - the student shows knowledge of each of the content of education at the level of 68% - 76%

3.0 - the student shows knowledge of each of the content of education at the level of 60% - 68%

2.0 - the student shows knowledge of each of the content of education below 60%

Verification of learning outcomes related to skills:

Practical credit

Assessment organized in the form of a specific task to be performed, presentation or execution of a project is also acceptable, implementation of a specific task.

Skills Assessment:

Completing a specific task to be performed: presentation / project:

5.0 - the student more than average actively participates in the classes, is well prepared, knows the issues very well.

4.5 - the student more than average actively participates in the classes, knows the issues well.

4.0 - the student actively participates in the classes, knows the issues well.

3.5 - the student participates in the classes, his scope of preparation does not allow for a comprehensive presentation of the discussed problem, sufficiently knows the issues covered.

3.0 - the student participates in classes, knows the basic issues sufficiently, but often makes mistakes and requires direction.

2.0 - the student passively participates in classes, the statements are factually incorrect, he does not know the basic issues discussed, requires constant improvement and orientation.

Verification of the learning outcomes in the field of social competences:

Guardian observation, group assessment, self-assessment

Assessment of social competences:

Weighted average grade resulting from partial grades for:

- ability to work in team (2/3 of the rating)

- the ability to present the results during classes (1/3 of the rating)

Range of grades: 2.0 - 5.0

Final credit for the course: written exam

The final grade is the average of the grades obtained from all student activities.

NOTE: A positive grade for a subject can only be obtained on the condition of obtaining a positive grade for each of the established learning outcomes.

**TOTAL PhD STUDENT WORKLOAD REQUIRED TO ACHIEVE THE INTENDED LEARNING
OUTCOMES
– NUMBER OF HOURS AND ECTS CREDITS**

Activity	Number of hours
Scheduled course contact hours	30
Other contact hours involving the teacher (consultation hours, examinations)	5
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	15
Total number of hours	50
Total number of ECTS credits	0

INSTRUCTIONAL MATERIALS

Compulsory literature:	<ol style="list-style-type: none">1. Zieliński J. Metodologia pracy naukowej. Oficyna wyd. ASPRA-JR 2019 (ibuk).2. Babbie E., Jasiewicz-Betkiewicz A. Badania społeczne w praktyce. PWN 2019.
Complementary literature:	<ol style="list-style-type: none">1. Gajda R., Broniecka A., Metodologia badań żywieniowych: przewodnik do ćwiczeń, Wydawnictwo Akademii Wychowania Fizycznego, Wrocław, 2018.2. Łobocki M. Metody i techniki badań pedagogicznych. Impuls 2005. Nowak S. Metodologia badań społecznych. PWN 2006.3. Jędrychowski W. Zasady planowania i prowadzenia badań naukowych w medycynie. Wydawnictwo Uniwersytetu Jagiellońskiego 2004.4. Creswell J., Projektowanie badań naukowych. J Metody jakościowe, ilościowe i mieszane. Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków, 2013.5. Radomski D., Grzanka A., Metodologia badań naukowych w medycynie. Wydawnictwo Naukowe Uniwersytetu Medycznego im. Karola Marcinkowskiego, Poznań, 2011.