

A COURSE SYLLABUS – DOCTORAL SCHOOL
regarding the qualification cycle from 2025/2026 to 2028/2029

GENERAL INFORMATION ABOUT COURSE				
Course title	RESEARCH METHODOLOGY			
Name of the unit running the course	Doctoral School of the University of Rzeszów			
Type of course (<i>obligatory, optional</i>)	compulsory			
Year and semester of studies	First year/First and second semester			
Discipline	Health sciences			
Language of Course	Polish language			
Name of Course coordinator	Agnieszka Sozańska, PhD, Professor at the University of Rzeszów			
Name of Course lecturer	Agnieszka Sozańska, PhD, Professor at the University of Rzeszów			
Prerequisites	Knowledge, skills and social competences related to the methodology of conducting scientific research, achieved at level 7 of the Polish Qualifications Framework in the discipline of health sciences.			
BRIEF DESCRIPTION OF COURSE (100-200 words)				
As part of the course: 'Research Methodology', doctoral students will consolidate their knowledge, skills and social competences regarding the set of rules, procedures and techniques used in the research process applied in the scientific discipline of health sciences. These include planning, conducting and analysing research with the aim of obtaining reliable and objective results. A key aspect in achieving this goal is the selection of appropriate research methods that will allow for an adequate solution to the research problem and confirmation or refutation of the hypotheses.				
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.)	knows and understands, has knowledge			
P8S_WG/3	Knows, understands and uses specialist terminology used in the national and international scientific and professional environment in the scientific discipline of health sciences, in which scientific research is planned.	P8S_WG	Conversatory	discussion, project
P8S_WG/4	Has extensive knowledge of the methodology of scientific research in the discipline of health sciences, using interdisciplinary tools and research techniques that allow for the most reliable and objective results of research work.	P8S_WG	Conversatory	project
P8S_WK/3	Has extensive knowledge of the possibilities of transferring the results of their scientific activity to the economic and social spheres.	P8S_WK	Conversatory	project,

Skills (no.)	can			
P8S_UW/1	Is able to use interdisciplinary knowledge to identify and practically solve research problems encountered by: defining the objective, subject and research hypothesis, creating innovative research methods, techniques and tools, and drawing conclusions based on the research results obtained.	P8S_UW	Conversatory	discussion, project
P8S_UK/1	Actively participate in national and international scientific and professional communities, sharing the results of your research work.	P8S_UK	Conversatory	project
P8S_UO/1	Through active participation in national and international research communities, participate in individual and team scientific projects, performing various roles.	P8S_UO	Conversatory	project
Social competence (no.)	is ready to			
P8S_KR1	Strengthen and develop the ethos of research communities, including conducting scientific activities independently, taking into account the principles of intellectual property protection and the principles of public ownership of research results.	P8S_KR	Conversatory	discussion, project

Semester (no.)	Lectures	seminar	Conversatory / Lab classes	Internships	others	ECTS
I	-	-	-	-	30	3
II	-	-	-	-	30	3
total:	-	-	-	-	60	6

METHODS OF INSTRUCTION

- *TRADITIONAL SEMINAR;*
- *SEMINAR WITH MULTIMEDIA PRESENTATION;*
- *PROJECT;*
- *DISCUSSION.*

COURSE CONTENT

Semester I:

1. Introduction to the course

- Course description, objectives and learning outcomes
- Organisation of classes and conditions for passing the course
- The role of the Bioethics Committee in the research process

2. Health and illness as a subject of scientific research

- Definitions of health and illness
- Interdisciplinarity of research in health sciences
- The importance of scientific research in clinical practice

3. Basic concepts of scientific research methodology

- Scientific research – essence and types
- Research problems and hypotheses
- Objectives of scientific research

4. The process of scientific cognition

- Stages of the research process

- Induction and deduction
- The importance of scientific evidence
- 5. **Reliability and ethics of scientific research**
 - Basic principles of ethics in research involving humans
 - The Declaration of Helsinki
 - Researcher responsibility
- 6. **Bioethics Committee approval – formal aspects**
 - Scope of competence of the Bioethics Committee
 - Application procedure
 - Most common formal errors
- 7. **Research documentation for the Bioethics Committee**
 - Application to the Bioethics Committee
 - Research protocol
 - Informed consent form
 - Information for research participants
- 8. **Protection of research participants' data and rights**
 - Anonymisation and confidentiality of data
 - GDPR in scientific research
 - Rights and obligations of participants
- 9. **Research team and researcher responsibility**
 - Roles in the research team
 - Communication and division of tasks
 - Responsibility of the research manager

Completion of semester I

Preparation of draft documents for the Bioethics Committee, including:

- **draft application to the Bioethics Committee,**
- **draft research protocol,**
- **draft informed consent form,**
- **draft information for research participants.**

Semester II:

1. **Logic and stages of research planning**
 - Research project structure
 - Research schedule
2. **Formulating research problems, hypotheses and objectives**
 - Relationships between the problem, objective and method
 - Operationalisation of concepts
3. **Selection of research methods, techniques and tools**
 - Quantitative and qualitative methods
 - Validity and reliability of tools
4. **Selection of the research sample**
 - Research group and control group
 - Inclusion and exclusion criteria
 - Sample size
5. **Randomisation and blinding of the sample**
 - Types of randomisation
 - The importance of blinding in research
6. **Planning recruitment for the study**
 - Recruitment strategies
 - Channels for reaching participants
 - Ethical principles of recruitment
7. **Documentation and course of the recruitment process**
 - Recruitment schedule
 - Monitoring and reporting recruitment
 - Participants withdrawing from the study

8. Collecting and managing research data

- Data collection procedures
- Data quality control

9. Compiling results and interpretation

- Basics of data analysis
- Scientific inference

10. Standards for reporting scientific research

- CONSORT, STROBE
- PRISMA – systematic reviews and meta-analyses

Completion of semester II

Preparation of a research project, with particular emphasis on:

- a full description of the research project,
- a detailed plan for participant recruitment,
- a research implementation schedule,
- justification for sample selection and recruitment methods.

COURSE ASSESSMENT CRITERIA

The course is taught in semesters I and II. After semester I, the course ends with a ZO1 grade, and after semester II, it ends with an E2 examination. Classes are conducted in direct contact between the doctoral student and the supervisor or assistant supervisor.

In order to pass the course after semester I, a report on the completion of the task must be submitted.

In order to pass the course after semester II, at least 51% of the points from the project must be obtained.

In order to obtain a positive grade, the following conversion table is used for the corresponding percentage of points obtained:

- up to 50% - unsatisfactory (the doctoral student does not make progress in scientific research, does not expand their knowledge, does not study the literature, does not participate in substantive discussions, does not fulfil their scientific obligations);

- 51% - 60% - satisfactory (the doctoral student makes negligible progress in scientific research, expands their knowledge, studies basic literature, the discussion is limited to a narrow range of substantive knowledge, fulfils basic scientific duties);

- 61% - 70% - satisfactory plus (the doctoral student is making progress in scientific research, expanding their knowledge, studying basic literature, participating substantively in discussions, fulfilling their scientific duties);

- 71% - 80% - good (the doctoral student makes significant progress in scientific research, broadens their knowledge, studies basic and supplementary literature, participates substantively in discussions, fulfils all scientific duties);

- 81% - 90% - good plus (the doctoral student makes significant progress in scientific research, systematically expands their knowledge, studies basic and supplementary literature, participates substantively in discussions, fulfils all scientific obligations);

- 91% - 100% - very good (the doctoral student makes significant progress in scientific research, systematically expands their knowledge, studies basic and supplementary literature as well as literature beyond the required scope, participates in discussions in a substantive manner, fulfils all scientific obligations);

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	2 x 30 hrs. – 60 hrs.

Other contact hours involving the teacher (consultation hours, examinations)	4
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	116 hrs
Total number of hours	180
Total number of ECTS credits	6
INSTRUCTIONAL MATERIALS	
Compulsory literature:	<ol style="list-style-type: none"> Hulley S. B., Cummings S. R., Browner W. S., Grady D., Newman T. B. (2016). Projektowanie badań klinicznych (wyd. pol.). Warszawa: Medipage. Creswell, J.W. (2013). Projektowanie badań naukowych. Metody jakościowe, ilościowe i mieszane. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
Complementary literature:	Wytyczne CONSORT, STROBE, PRISMA.

*(1 ECTS CREDIT CORRESPONDS TO 25 - 30 HOURS OF THE TOTAL WORKLOAD OF A DOCTORAL STUDENT, NEEDED TO ACHIEVE THE ESTABLISHED EFFECTS).

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Date and signature of the Course lecturer

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Approved by the Head of the Department or an authorised person