

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

| GENERAL INFORMATION ABOUT COURSE | | | | |
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| 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 | Anna Bartosiewicz, PhD, Professor at the University of Rzeszów | | | |
| Name of Course lecturer | Anna Bartosiewicz, PhD, Professor at the University of Rzeszów | | | |
| Prerequisites | Knowledge, skills and social competences in the field of basic scientific research methodology, including knowledge of basic research paradigms, quantitative and qualitative methods, and principles of scientific research ethics, achieved at level 7 of the Polish Qualifications Framework in the discipline of Health Sciences. | | | |
| BRIEF DESCRIPTION OF COURSE (100-200 words) | | | | |
| <p>As part of the course 'Research Methodology', doctoral students will consolidate and deepen their knowledge, skills and social competences in the field of research methodology in the discipline of Health Sciences. The course covers issues related to research paradigms, research design, the selection of quantitative and qualitative methods, as well as the principles of research ethics and researcher responsibility.</p> <p>The course discusses the key stages of the research process, including the formulation of the research problem, objectives and hypotheses, sample selection, planning of research procedures, data analysis and interpretation, and critical evaluation of research results. Particular emphasis is placed on methodological correctness, reliability and credibility of the research conducted, as well as the ability to think independently and critically. The course prepares doctoral students to conduct independent research and complete their doctoral dissertations in accordance with current scientific standards.</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.) | 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, written exam (test) |
| P8S_WG/4 | Has extensive knowledge of the applied research methodology in the discipline of | P8S_WG | Conversatory | written assignment, project, |

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| | Health Sciences, using interdisciplinary research tools and techniques to obtain the most reliable and objective research results. | | | | | discussion, written exam (test) |
| 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 | written assignment, project, discussion |
| 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, written assignment, (manuscript of publication) |
| P8S_UK/1 | Actively participate in national and international scientific and professional conferences, sharing the results of their research work. | | | P8S_UK | Conversatory | project, written assignment, (manuscript of publication) |
| P8S_UO/1 | Through active participation in the national and international research community, participate in individual and team scientific projects, performing various roles in them. | | | P8S_UO | Conversatory | project |
| Social competence (no.) | is ready to | | | | | |
| P8S_KR1 | Strengthening and developing the ethos of research environments, 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 | | | | | | |
| <ul style="list-style-type: none"> - TRADITIONAL SEMINAR; - SEMINAR WITH MULTIMEDIA PRESENTATION; - PROJECT; - DISCUSSION. | | | | | | |
| COURSE CONTENT | | | | | | |
| Semester I: Fundamentals of scientific research methodology, including: <ul style="list-style-type: none"> - Science and scientific research, definitions, objectives and functions of scientific research; - Research paradigms - Specificity of scientific research in health sciences and related disciplines. Scientific research design, including: | | | | | | |

- Identification and formulation of a research problem;
- Research objectives, research questions and research hypotheses;
- Types of research: quantitative, qualitative and mixed methods;
- Types of research (observational, interventional, review).

Research methods and techniques, including:

- Selection of research methods, techniques and tools appropriate to the research problem;
- Selection of the research sample and principles of representativeness.

Ethics of scientific research, including:

- Ethical principles in conducting scientific research;
- The role of bioethics committees and rules for preparing applications;
- Researcher responsibility, scientific integrity and anti-plagiarism;
- Protection of research data and intellectual property.

Semester II

Planning and conducting research, including:

- Organisation and conduct of the research process;
- Research schedule and documentation of the research process;
- Research project management;
- Individual and team work in scientific research.

Data analysis and interpretation, including:

- Basics of quantitative and qualitative data analysis;
- Interpretation of scientific research results;
- Critical evaluation of results and identification of research limitations.

Dissemination of research results, including:

- Principles of preparing a scientific publication;
- Structure of a scientific article;
- Selection of a scientific journal and the review process;
- Publication ethics and authorship rules.

Knowledge transfer and functioning in the scientific community, including:

- Presentation of research results (conferences, seminars, scientific presentations);
- Scientific communication in the national and international community;
- Transfer of research results to social and economic practice.

COURSE ASSESSMENT CRITERIA

The course is taught in semesters I and II. At the end of semester I, the course ends with a pass mark (ZO₁), while at the end of semester II, the course ends with an examination (E₂). Classes are conducted in direct contact between the doctoral student and the supervisor or assistant supervisor.

In order to pass the course after the first semester, students must submit a report on the completion of their research tasks. In order to pass the course after the second semester, students must obtain at least 51% of the points from the written exam (test, written assignments).

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 is not making progress in scientific research, is not expanding their knowledge, is not studying the literature, is not participating in substantive discussions, is not fulfilling 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 makes progress in scientific research, expands their knowledge, studies basic literature, participates in substantive discussions, fulfils their scientific duties);scope, participates in discussions in a substantive manner, fulfils all scientific obligations);
- 71% - 80% - good (the doctoral student makes significant progress in scientific research, expands 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

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| Compulsory literature: | Zieliński J. Metodologia pracy naukowej. Oficyna wyd. ASPRA-JR 2019 (ibuk). Babbie E., Jasiewicz-Betkiewicz A. Badania społeczne w praktyce. PWN 2019. Browner WS, Newman TB, Cummings SR, Grady DG. Designing clinical research. Lippincott Williams & Wilkins; 2022. |
| Complementary literature: | Gajda R., Broniecka A., Metodologia badań żywieniowych: przewodnik do ćwiczeń, Wydawnictwo Akademii Wychowania Fizycznego, Wrocław, 2018. Łobocki M. Metody i techniki badań pedagogicznych. Impuls 2005. Nowak S. Metodologia badań społecznych. PWN 2006. Jędrychowski W. Zasady planowania i prowadzenia badań naukowych w medycynie. Wydawnictwo Uniwersytetu Jagiellońskiego 2004. Creswell J., Projektowanie badań naukowych. J Metody jakościowe, ilościowe i mieszane. Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków, 2013. Radomski D., Grzanka A., Metodologia badań naukowych w medycynie. Wydawnictwo Naukowe Uniwersytetu Medycznego im. Karola Marcinkowskiego, Poznań, 2011. |

*(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