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 *(obligatory, optional)*	obligatory
Year and semester of studies	I year, 1 semestr
Discipline	Nutrition and food technology
Language of Course	Polish
Name of Course coordinator	Agata Znamirowska PhD, DSc, Associate Professor
Name of Course lecturer	Agata Znamirowska PhD, DSc, Associate Professor
Prerequisites	———

BRIEF DESCRIPTION OF COURSE
(100-200 words)

The aim of the course is to familiarize with the current scientific research and trends in the world achievements in the field of food technology and nutrition. As part of the course, research methods will be discussed, including statistical analysis and the principles of publishing the results.

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	Knows and understands the theoretical foundations and current global achievements as part of his research interests in food technology and human nutrition	P8S-WG/1	Lectures, classes	written exam
2	Knows the main trends in the development of research methods in the discipline of food and nutrition technology, including methods of statistical analysis	P8S-WG/2 P8S-WG/3	Lectures, classes	test
3	He knows the rules of disseminating research results	P8S-WG/4	Lectures	written exam
Skills (no.)				
1	He can formulate a goal and research hypothesis and carry out verification	P8S-UW/1	Classes	test
2	Can creatively use research tools and make correct conclusions	P8S-UW/1	classes	test
Social competence (no.)				

LEARNING FORMAT – NUMBER OF HOURS						
Semester (no.)	Lectures	Classes /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// GROUP WORK (PROBLEM SOLVING, CASE STUDY, DISCUSSION)/ DISTANCE LEARNING

COURSE CONTENT

1. **Lectures/ Seminars:**

   Scientific databases and publications - current world achievements. Experience as a research method in agricultural sciences. Principles of sampling, observations and measurements on various populations (microorganisms, plants, animal and human populations). Classification of experiments according to various criteria: the place of conducting and the experimental unit, the number of factors studied, the experimental layout (method of drawing), repetition in place and in seasons (series of experiments).

2. **Seminars / Lab classes/ others:**
   The essence and the concept of measurement in scientific research. Cognitive and utilitarian goals in agricultural research, formulation of working (research) hypotheses. Research stages in individual methods. The concept and significance of statistical hypotheses at the stage of research design. Basic concepts used in research methods. Examples of research projects. ANOVA analysis (one, two, multivariate). Correlation and regression analysis in developing the relationship between two features. Interpretation of results and inference.

COURSE ASSESSMENT CRITERIA

The condition for completing the course is achieving all the assumed learning outcomes. The number of points obtained (> 50% of the maximum number of points) decides about the positive grade for the subject (pass and exam): satisfactory 51-60%, satisfactory plus 61-69%, good 70-79%, good plus 80-89%, very good 90-100%

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)	—
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	30
Total number of hours	60
Total number of ECTS credits	0

INSTRUCTIONAL MATERIALS	
Compulsory literature:	Adam Grobler. Metodologia nauk . - Kraków : "Aureus" : "Znak", 2006. Koronacki Jacek, Jan Mielniczuk. Statystyka dla studentów kierunków technicznych i przyrodniczych/WNT, Warszwa 2001. Zygmunt Hajduk, Ogólna metodologia nauk. Katolicki Uniwersytet Lubelski Jana Pawła II. Wydział Filozofii. - Wyd. 6 uzup. - Lublin : Wydawnictwo KUL, 2012. Stanisz A. Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach medycyny. Tom 1-3. StatSoft, Kraków 2006
Complementary literature:	Dudziak A., Żejmo A.: Redagowanie prac dyplomowych: wskazówki metodyczne dla studentów. Difin, Warszawa 2008 Kozłowski R.: Praktyczny sposób pisania prac dyplomowych: z wykorzystanie programu komputerowego i Internetu. Warszawa, Oficyna a Wolters Kluwer business 2009