

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

GENERAL INFORMATION ABOUT COURSE				
Course title		Doctoral seminar		
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		I-IV/ sem. I-VIII		
Discipline		agriculture and horticulture		
Language of Course		Polish		
Name of Course coordinator		Prof. dr hab. Jadwiga Stanek-Tarkowska		
Name of Course lecturer		Prof. dr hab. Jadwiga Stanek-Tarkowska		
Prerequisites		Knowledge of agricultural and horticultural sciences and soil biology, at the level of upper secondary education.		
BRIEF DESCRIPTION OF COURSE (100-200 words)				
Types of scientific research (basic research, applied research, development work) and institutions established to finance them. Principles of scientific, observational and experimental research for finding new solutions. To expand knowledge related to the biological, chemical and physical properties of soil, to acquire the ability to perform soil analysis (soil properties) independently, and to expand skills related to the determination of soil microorganisms (bacteria). To learn about the microbiological properties of soil under the influence of unconventional fertilization. To learn to design an experiment and conduct it, to take samples and prepare them for analysis in the laboratory, to analyze the obtained results and their presentation in the form of: speeches at conferences, scientific articles. To learn how to write projects (grants), in order to obtain external funds.				
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	Has a broad global knowledge and knows the concepts and processes of the soil environment and how it affects plants and microorganisms.	P8S-WG/1	Individual work with a PhD student	Project, Art. scientific, presentation at conference
2	Understands the need for interdisciplinary research, especially the development of the discipline of agriculture and horticulture in light of the latest research.	P8S-WG/2	Individual work with a PhD student	Project, Art. scientific, presentation at conference
3	Knows the principles and methods of scientific research, understands the need to disseminate research results, presentations at conferences and scientific publications and commercialization of research, establishing cooperation with the economic environment.	P8S-WG/4 P8S-WK/3	Individual work with a PhD student	Project, Art. scientific, presentation at conference



Publication of 4 to 5 papers from the JCR list, active participation in at least 4 foreign conferences.

Presentation of a dissertation on the basis of: 1. a series of scientific articles or monographs.

**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	240 hrs. – 8 x 30 hrs.
Other contact hours involving the teacher (consultation hours, examinations)	—
Non-contact hours – student's own work (preparation for classes or examinations, project, etc.)	480 hrs.
<b>Total number of hours</b>	720 hrs.
<b>Total number of ECTS credits</b>	0

**INSTRUCTIONAL MATERIALS**

Compulsory literature:	<b>THE LATEST SCIENTIFIC ARTICLES ON RESEARCH IN THE FIELD OF AGRICULTURE, BIOLOGY AND BIOTECHNOLOGY</b>
Complementary literature:	

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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