

A COURSE SYLLABUS – DOCTORAL SCHOOL
REGARDING THE QUALIFICATION CYCLE FROM 2022 TO 2026

GENERAL INFORMATION ABOUT COURSE				
Course title	Doctoral laboratory			
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	Year I - IV / semester I - VIII			
Discipline	agriculture and horticulture			
Language of Course	Polish			
Name of Course coordinator	Dr hab. inż. Waław Jarecki, prof. UR			
Name of Course lecturer	Dr hab. inż. Waław Jarecki, prof. UR			
Prerequisites	Knowledge in the field of higher (Master's) studies in agriculture and horticulture			
BRIEF DESCRIPTION OF COURSE (100-200 words)				
<p>The doctoral laboratory is designed to prepare the doctoral student for the establishment and conduct of a three-year strict field experiment or a one-year vase experiment. Due to the specificity of agricultural sciences, classes are carried out in an individual system in accordance with the program set by the promoter. The subject prepares for writing a doctoral dissertation, scientific articles and presenting research results at national and international conferences. The doctoral laboratory will prepare the doctoral student for active participation in the life of the scientific community and will enable him to acquire the ability to conduct agricultural experiments. At the doctoral laboratory, the doctoral student will be educated in the ability to communicate with specialists from various scientific disciplines. An important goal of the doctoral workshop is to acquire knowledge and skills that will help in the proper conduct of laboratory analyzes necessary to write a doctoral dissertation.</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)			
1	Knows and understands general issues concerning the field of agricultural sciences both in Poland and in the world. Knows and understands selected specific issues concerning agriculture.	P8S-WG/1	Laboratories Conservatory	Activity in class, Participation in the discussion.
2	The latest discoveries in the field of agricultural sciences and directions of their development as well as the current global scientific achievements related to it	P8S-WG/2	Laboratories Conservatory	Activity in class, Participation in the discussion. Report on the tests performed.

3	Concepts, nomenclature, definitions and industry vocabulary in the discipline of agriculture and horticulture, including in a foreign language.	P8S-WG/3	Laboratories Conservatory	Participation in the discussion. Report on the tests performed.
4	Principles of setting up and conducting field and laboratory experiments. Methodology of agricultural research using interdisciplinary research techniques and tools.	P8S-WG/4	Laboratories Conservatory	Activity in class. Report on the tests performed.
Skills (no.)	(Able to)			
1	Can define the purpose of scientific research and the research hypothesis. Select the appropriate experimental setup allowing for subsequent statistical analysis and final inference.	P8S_UW/1	Laboratories Conservatory	Participation in the discussion. Report on the tests performed.
2	Compile and use current scientific literature to solve research problems and develop innovation in agriculture	P8S_UW/2	Laboratories Conservatory	Activity in class, Report on the tests performed.
3	Critically evaluate available expert analyses, research results and other scientific assessments in terms of their contribution to the development and dissemination of agricultural knowledge.	P8S_UW/3	Laboratories Conservatory	Activity in class, Participation in the discussion.
Social competence (no.)	(Ready to)			
1	He is ready to critically assess achievements in the discipline of agriculture and horticulture and to compare national achievements with those of the world.	P8S_KK1	Laboratories Conservatory	Activity in class, Participation in the discussion. Report on the tests performed.

LEARNING FORMAT – NUMBER OF HOURS

Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
I-VIII			240			24

METHODS OF INSTRUCTION

Individual and team work in the laboratory, work in a research group, discussion, compilation of results and their analysis.

COURSE CONTENT

The scope of the program content of the doctoral workshop includes practical aspects supporting the progress of the doctoral student's scientific work. The subject matter and scope of the doctoral workshop will in particular include issues related to the methods of obtaining, processing and elaborating data as well as methods of interpreting the results obtained. Reports prepared by the doctoral student should contain the general state of knowledge in the field of the doctoral thesis and the results of own research. Then, such chapters as: the purpose of the work, research hypothesis, material and methods and statistical calculations will be specified. As a result, the first research results and their interpretation will be compiled. Reporting should include an initial discussion along with a bibliography of the subject. The doctoral student will learn about the agricultural environment and contemporary problems of the countryside and agriculture, and will identify their causes and effects. In the final stage, the doctoral student will get acquainted with the review of scientific papers and proofreading of the text according to the comments of reviewers or editors in journals with points. It will expand the ability to conduct a scientific discussion and teamwork in solving difficult scientific problems in the agricultural industry.

COURSE ASSESSMENT CRITERIA

Passing with a grade will be calculated on the basis of the following criteria: active participation in classes, participation in discussions and preparation of a report on the research done. Whereas you will be able to get for: • activity in classes - max 30%, • participation in the discussion - max 30%, • preparation of a report up to 40%. Scoring: 51-60% dst; 61-70% +dst; 71-80% db; 81-90% +db; 91-100% very good

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
Other contact hours involving the teacher (consultation hours, examinations)	-
Non-contact hours – student's own work (preparation for classes or examinations, project, etc.)	-
Total number of hours	240
Total number of ECTS credits	24

INSTRUCTIONAL MATERIALS

Compulsory literature:	Kolman R., Poradnik dla doktorantów i habilitantów. Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego. , Bydgoszcz, 2000. Apanowicz J. Metodologiczne uwarunkowania pracy naukowej : prace doktorskie, prace habilitacyjne. Warszawa : "Difin". 2005.
Complementary literature:	Stępień B. Zasady pisania tekstów naukowych : prace doktorskie i artykuły. Wydawnictwo Naukowe PWN. Warszawa. 2022.

Hanusz Z., Tarasińska J. Statystyka matematyczna : wykłady i ćwiczenia dla studentów kierunków technicznych uczelni rolniczych. Wydawnictwo Akademii Rolniczej, Lublin 2006.

Result brochures: COBORU in Słupia Wielka, IUNG-PIB in Puławy, PODR in Boguchwała
Scientific publications in the field of agriculture and horticulture and related sciences