

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

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	Year I - IV/Semester I-VII			
Discipline	Biological sciences			
Language of Course	polish			
Name of Course coordinator	dr hab. Tomasz Durak, prof. UR			
Name of Course lecturer	dr hab. Tomasz Durak, prof. UR			
Prerequisites	Completion of a biology course at the second degree level of studies			
BRIEF DESCRIPTION OF COURSE (100-200 words)				
<p>The aim of the doctoral seminar is to deepen and systematize the current knowledge related to the subject of the doctoral dissertation, to develop the skills of formulating and solving research problems and the ability to present scientific work. The issues raised as part of the subject and the projects implemented will also serve to prepare the doctoral student for the completion of the doctoral thesis and the presentation of the obtained research results. In addition, the doctoral seminar will be aimed at developing the doctoral student's search skills important from the point of view of the substantive and scientific value of publications in the field of the research topic being pursued.</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	directions of development and the current state of knowledge on the physiological and biochemical reactions of plants to changes in environmental conditions and the consequences of these changes for the functioning of plant communities and the ecosystem	P8S_WG1 P8S_WG2 P8S_WG3	seminar	presentation/discussion
2	current research methods used in the analysis of plant response to environmental changes	P8S_WG4	seminar	presentation/discussion
Skills (no.)	(Able to)			

1	use their knowledge to formulate research questions and hypotheses, apply/propose appropriate research methods and correctly draw conclusions based on the results obtained	P8S_UW1 P8S_UW2	seminar	presentation/discussion/project		
2	make a critical analysis and evaluation of the results of scientific research, expert activities and other works of a creative nature and their contribution to the development of knowledge	P8S_UW3	seminar	presentation/discussion		
3	use a foreign language at the B2 level of the European System of Language Education to the extent that allows participation in the international scientific and professional environment	P8S_UK6	seminar	presentation/discussion		
Social competence (no.)	(Ready to)					
1	critical assessment of achievements within the presented scientific discipline and research issues	P8S-KK/1	seminar	presentation/discussion		
2	recognize the importance of knowledge in solving cognitive and practical problems	P8S-KK/3	seminar	presentation/discussion		
LEARNING FORMAT – NUMBER OF HOURS						
Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
I - VII					105	14
METHODS OF INSTRUCTION						
Multimedia presentation, discussion, project preparation						

COURSE CONTENT

The program content is related to the research issues of the doctoral student:

1. Literature review and determination of the current state of knowledge in the field of plant response to environmental changes
2. Review of research methods
3. Discussion of the concept of the doctoral thesis
4. Preparation for research - selection of literature and research methods
5. Research implementation
6. Development of research results and their presentation
7. Discussion of the research results and their summary

COURSE ASSESSMENT CRITERIA

based on the level of prepared presentations and projects as well as active participation in discussions on the presented issues

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	105
Other contact hours involving the teacher (consultation hours, examinations)	75
Non-contact hours – student's own work (preparation for classes or examinations, project, etc.)	200
Total number of hours	380
Total number of ECTS credits	14

INSTRUCTIONAL MATERIALS

Compulsory literature:	SCIENTIFIC ARTICLES IN POLISH AND FOREIGN LANGUAGES IN THE FIELD OF PLANT PHYSIOLOGY AND ECOLOGY PESSARAKLI M. ED. 1999. HANDBOOK OF PLANT AND CROP STRESS. 2ND EDN, REVISED AND EXPANDED. NEW YORK. REIGOSA, MJ. 2001. HANDBOOK OF PLANT ECOPHYSIOLOGY TECHNIQUES. KLUWER ACADEMIC PUBLISHERS, THE NETHERLANDS.
Complementary literature:	Weiner J., 2028. Technika pisania i prezentowania przyrodniczych prac naukowych. Wyd. Naukowe PWN, Warszawa. Włodzimierz Meissner W., 2014. Metody statystyczne w biologii. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.